The Health Sciences Programs have as their overall mission "to educate health professionals and to improve human health". In keeping with this mission, the institution is committed to working toward a more diverse campus community. This diverse community will be one that acknowledges, values, fosters and benefits from the unique qualities, rich histories, and wide variety of cultural values that mirror the changing demographic profile of American society. UCD Health Sciences Programs are committed to upholding all aspects of diversity as a necessary condition to achieving the institution’s stated objectives and mission.
Academic Calendar 2008 – 2009
(Excluding School of Medicine M.D. Program)

Basic Sciences Programs
Pharmaceutical Sciences and Toxicology Programs
Child Health Associate/ Physician Assistant Program
Doctor of Physical Therapy Program
School of Dental Medicine and Dental Hygiene
College of Nursing
School of Pharmacy

Summer 2008

Pre-registration: College of Nursing (continuing students) Summer 2008 April 7-April 25
Registration: Dental/Dental Hygiene Summer 2008 Monday, April 21
Registration: Physical Therapy Summer 2008 Monday, May 5
Pre-registration: College of Nursing (new students) Summer 2008 May 5-May 23
Registration: Basic Sciences (continuing students) Summer 2008 Monday, May 12
Registration: CHAPA Program Summer 2008 Monday, May 12
Registration: Traditional 4th Yr Pharmacy Summer 2008 Monday, May 12
Early Start (Dental, Dental Hygiene) Monday, May 19
Memorial Day Holiday Monday, May 26
Rotation 1 begins (Pharmacy P4 students) Monday, May 26
Late registration and add/drop begins College of Nursing Summer 2008 Tuesday, May 27
Break (Dental/ Dental Hygiene) May 27-30
Orientation: College of Nursing New B.S. students Wednesday, May 28
Last day to submit application for graduation for August MS Grads (CHAPA) Wednesday, May 28
Orientation: CHAPA Program May 28-30
Orientation: Physical Therapy May 28-30
Last day to submit Application to Grad School for MS Aug 2008 grads Monday, June 2
Traditional Summer semester begins Monday, June 2
Last day to submit App. for Graduation to Grad School for MS Aug grads (CON) Monday, June 2
Diploma cards due for December graduates Friday, June 6
Last day to drop/add Friday, June 6
Independence Day Holiday Friday, July 4
Rotation 2 begins (Pharmacy P4 students) Monday, July 7
Final exams: Dental/Dental Hygiene July 14-18
Final exams: 8-week courses (College of Nursing) July 22-25
8-week courses end (College of Nursing) Friday, July 25
Semester ends (Dental/Dental Hygiene) Friday, July 25
Last day to take final exam/thesis defense Aug 2008 MS & PhD grads Friday, July 25
Last day to submit thesis (MS & PhD) Friday, August 1
Traditional Final Exam Week August 4-8
Traditional Summer semester ends Friday, August 8
Final exams: Physical Therapy (1st year) August 11-14
Final exams: Physical Therapy (2nd, 3rd years), CHAPA August 11-15
Traditional Final grades due (by noon) Wednesday, Aug. 13
Semester ends (Physical Therapy 1st year) Thursday, August 14
Semester ends (CHAPA, Physical Therapy 2nd & 3rd years, Pharmacy) Friday, August 15
August degree award date Friday, August 15
Final grades due (by noon) CHAPA, Physical Therapy, Pharmacy Wednesday, Aug. 20
Break (1st Year Physical Therapy) August 15-21 Break
(2nd, 3rd Yr Physical Therapy) August 16-24
Break (CHAPA) August 18-22
Fall 2008

Pre-registration: College of Nursing (continuing students) Fall 2008  July 7-18
Intro to Pharmacy and Orientation (first-year students) August 15-25
Pre-registration: College of Nursing (new students) Fall 2008  July 21-August 1
Registration Dental students Fall 2008  Monday, July 28
Registration Physical Therapy Fall 2008  Monday, July 28
Registration: CHAPA, Basic Sciences, Pharmacy Fall 2008  Monday, Aug 4
Orientation: 1st yr Dental students  August 12-15
Rotation 3 begins (4th year Pharmacy)  Monday, August 18
Fall semester begins (Dental students)  Monday, August 18
Late registration and drop/add begins (College of Nursing)  Monday, August 18
Orientation: Basic Sciences  Wednesday, Aug 20
Orientation: College of Nursing New MS, DNP, & Ph.D. students  August 20-21
Fall semester begins (1st yr Physical Therapy)  Friday, August 22
Traditional Fall semester begins  Monday, August 25
Interprofessional Orientation (CHAPA)  Monday, August 25
Rotation 1: Basic Sciences  Aug 25 - Nov 14
Fall semester begins Pharmacy (1st, 2nd, 3rd year students)  Tuesday, August 26
Labor Day Holiday (classes not in session) Monday, Sept 1
Fall semester begins Physical Therapy (2nd year)  Tuesday, Sept 2
Last day to drop/add  Friday, September 5
Classes end (3rd yr Physical Therapy)  Friday, Sept 12
Break (3rd yr Physical Therapy) travel to CEIII  September 13-21
Clinical Affiliation III (3rd yr Physical Therapy) (16 weeks)  Sept 22–Jan 9, 2009
Last day to submit App. for Graduation to Grad School for MS Dec 2008 grads  Wednesday, Oct. 1
Rotation 4: 4th yr Pharmacy  Monday, Sept 29
Final exam period – Block I courses (College of Nursing)  October 13-17
Block I courses end (College of Nursing)  Friday, October 17
Block II courses begin (College of Nursing)  Monday, October 20
Rotation 5: Pharmacy  Monday, Nov. 10
Rotation 2: Basic Sciences (Holiday Break Nov. 27-28; Dec.15-Jan 2  Nov 17 - February 20
Last day to take final exam/thesis defense for Dec 2008 MS & PhD grads  Wednesday, Nov 19
Thanksgiving Day (3rd yr Physical Therapy holiday at discretion of Clinical Site)  Thursday, Nov. 27
Thanksgiving Break (Classes not in session)  November 27-28
Last day to submit thesis (MS & PhD)  Wednesday, Nov 26
Diploma cards due for May graduates  Friday, December 5
Final Exam Week  December 8-12
Final exam period – Block II (College of Nursing)  December 8-12
Last day of classes (Pharmacy)  Wednesday, Dec 10
Fall Semester ends  Friday, December 12
December degree award date  Friday, December 12
December Graduates Reception (College of Nursing)  Friday, December 12
Final Exam Week (Pharmacy)  December 12, 15-18
Break (1st, 2nd yr Physical Therapy)  December 13-Jan. 4
Break (CHAPA)  December 15-Jan. 2
Final grades due (by noon)  Wednesday, Dec 17
Break (Dental, Dental Hygiene)  December 15-Jan. 2
Fall Semester ends (Pharmacy)  Friday, December 19
Break (4th Yr Pharmacy)  December 22-Jan 2
Final Grades Due (Pharmacy) noon  Wednesday, Dec 24
### Spring 2009

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
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<tbody>
<tr>
<td>Pre-registration: College of Nursing (continuing students) Spring 2009</td>
<td>November 10-28</td>
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<tr>
<td>Registration: Basic Sciences for Spring 2009</td>
<td>Monday, December 8</td>
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<tr>
<td>Registration: CHAPA Program for Spring 2009</td>
<td>Monday, December 8</td>
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<tr>
<td>Registration: Dental/Dental Hygiene Spring 2009</td>
<td>Monday, December 8</td>
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<tr>
<td>Registration: Physical Therapy Spring 2009</td>
<td>Monday, December 8</td>
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<tr>
<td>Registration: Pharmacy Spring 2009</td>
<td>Monday, December 8</td>
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<td>Pre-registration: College of Nursing (new students) Spring 2009</td>
<td>December 8-26</td>
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<td>Drop/add for Early Start begins (College of Nursing)</td>
<td>Dec 26-Jan 6</td>
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<tr>
<td>Early Start (School Nursing selected classes)</td>
<td>Friday, January 2</td>
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<tr>
<td>Early Start (Dental/Dental Hygiene)</td>
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<tr>
<td>Early Start (1st, 2nd, 3rd yr Physical Therapy)</td>
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<tr>
<td>Spring semester begins (CHAPA)</td>
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<tr>
<td>Rotation 6: Pharmacy (4th year)</td>
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<td>Clinical Affiliation I (1st yr Physical Therapy)</td>
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<td>Orientation: College of Nursing New BS students</td>
<td>Wednesday, Jan. 7</td>
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<td>Last day to drop/add for Early Start (beginning Jan. 5 and CHAPA Spring semester)</td>
<td>Friday, January 9</td>
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<tr>
<td>End of CEIII (3rd year Physical Therapy)</td>
<td>Friday January 9</td>
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<tr>
<td>Break (3rd yr Physical Therapy) travel to CE IV</td>
<td>January 10-18</td>
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<td>Last day to drop/add for Dental/Dental Hygiene</td>
<td>Friday, January 16</td>
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<td>Martin Luther King, Jr. (classes not in session) (2nd, 3rd yr Physical Therapy holiday at discretion of Clinical Site)</td>
<td>Monday, January 19</td>
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<tr>
<td>Clinical Affiliation IV (3rd yr Physical Therapy)</td>
<td>January 19-May 6</td>
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<td>Block I begins (College of Nursing)</td>
<td>Tuesday, January 20</td>
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<td>Traditional Spring Semester begins</td>
<td>Tuesday, January 20</td>
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<tr>
<td>Semester begins (1st, 2nd, 3rd yr Pharmacy)</td>
<td>Tuesday, January 20</td>
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<tr>
<td>Last day to drop/add for traditional semester</td>
<td>Friday, January 30</td>
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<tr>
<td>Classes begin (1st yr Physical Therapy)</td>
<td>Monday, February 2</td>
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<td>Diploma cards due for August graduates</td>
<td>Friday, February 6</td>
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<tr>
<td>Presidents Day (classes not in session)</td>
<td>Monday, February 16</td>
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<tr>
<td>Rotation 7 begins (4th year Pharmacy)</td>
<td>Monday, February 16</td>
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<tr>
<td>Rotation 3: Basic Sciences</td>
<td>Feb 23 - May 15</td>
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<td>Last day to submit Application for Graduation May 2009 M.S. Grads (CHAPA)</td>
<td>Wednesday, Feb 25</td>
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<td>Last day to submit Application for Graduation May 2009 (Grad School)</td>
<td>Monday, March 2</td>
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<td>Last day to submit App. for Graduation to Grad School May 2009 Grads (CON)</td>
<td>Monday, March 2</td>
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<tr>
<td>Block I exam period (College of Nursing)</td>
<td>March 9-13</td>
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<td>Block I ends (College of Nursing)</td>
<td>Friday, March 13</td>
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<tr>
<td>Spring Break (CHAPA, Basic Sciences, Nursing, Pharmacy, Dental/Dental Hygiene)</td>
<td>March 16-20</td>
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<tr>
<td>Block II begins (College of Nursing)</td>
<td>Monday, March 23</td>
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<tr>
<td>Final exams (2nd yr Physical Therapy)</td>
<td>March 23-25</td>
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<td>Break (1st year Physical Therapy), (2nd yr Physical Therapy travel to CE II)</td>
<td>March 26-29</td>
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<td>Rotation 8 begins (4th year Pharmacy)</td>
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<td>Clinical Education Affiliation II (2nd yr Physical Therapy) (8 weeks)</td>
<td>March 30-May 22</td>
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<td>Last day for PhD Dissertation defense to walk in spring commencement</td>
<td>Wednesday, April 1</td>
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<td>Pre-registration College of Nursing (continuing students) Summer 2009</td>
<td>April 6-April 24</td>
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<tr>
<td>Last day to take final exam/thesis defense for May 2009 MS &amp; PhD grads</td>
<td>Friday, May 1</td>
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<td>Final Awards Convocation (Pharmacy)</td>
<td>Friday, May 1</td>
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<td>Pre-registration College of Nursing (new students) Summer 2009</td>
<td>May 4-May 22</td>
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<tr>
<td>Travel from CE IV to campus (3rd yr Physical Therapy)</td>
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<td>Last day to submit thesis (Graduate School)</td>
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<td>Last day of classes (Pharmacy)</td>
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<td>Final Exam Week</td>
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<td>Block II exam period (College of Nursing)</td>
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<tr>
<td>Presentation Seminars (3rd yr Physical Therapy)</td>
<td>May 11-21</td>
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</table>
Spring 2009 (cont’d)

Final exams (Pharmacy) May 12-15
Traditional Spring Semester ends Friday, May 15
Final grades due (3rd yr Physical Therapy) Friday, May 15
Board Review (4th yr Pharmacy) May 16-18
Break (1st yr Physical Therapy) May 16-31
Law Reviews (Pharmacy) Tuesday, May 19
Final grades due (by noon) Wed., May 20
(CHAPA, Basic Sciences, Nursing, 1st & 2nd yr., Physical Therapy, Dental/Dental Hygiene) Thursday, May 21
Commencement Banquet (Pharmacy) Friday, May 22
CHAPA Convocation Friday, May 22
Spring Semester ends (2nd, 3rd yr Physical Therapy) Friday, May 22
Graduate School Convocation Friday, May 22
Nursing Convocation Friday, May 22
ANNUAL COMMENCEMENT
Break (2nd year Physical Therapy) May 23-31

2/07/08
FALL SEMESTER 2008 (Class of 2012 - Phase I)
August 11 – 15    Phase I Orientation
August 18    Fall Semester Begins
August 21    Elective Fair
September 1    Holiday, Labor Day
September 8-12    Elective Registration
September 15    Elective Courses Begin
September 15-26   Add/Drop Period
November 27 and 28   Holiday, Thanksgiving
December 1–5    Pre-registration spring semester electives
December 19    Fall Semester Ends

December 20 – January 4, 2009    Winter Break

SPRING SEMESTER 2009 (Class of 2012 - Phase I)
January 5    Spring Semester Begins
January 5 – 16    Add/Drop Period
January 19    Holiday, Martin Luther King Day
February 16    Holiday, President’s Day
March 16 – 20    Spring Break
May 22         UCHSC 2009 Commencement – NO CLASSES
May 25    Holiday, Memorial Day
June 5    Spring Semester Ends
<table>
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<tbody>
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<td>November 27 and 28</td>
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<td>Pre-registration spring semester electives</td>
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<td>December 20 – January 4, 2009</td>
<td>Winter Break</td>
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<td>February 16</td>
<td>Holiday, President’s Day</td>
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### SPRING SEMESTER 2008 – CLASS OF 2010 (Phase III begins in spring semester of 2008)

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**Block 1**

**FINAL DRAFT**

**March 10 - April 11** Step 1 Review/Vacation prior to start of Spring Semester

**SPRING SEMESTER 2008 – CLASS OF 2010 (Phase III begins in spring semester of 2008)**

<table>
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**SUMMER SEMESTER 2008 – CLASS OF 2010 PHASE III**

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**Fall Break**

**SUMMER SEMESTER 2008 – CLASS OF 2010 PHASE III**

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**FALL SEMESTER 2008 – CLASS OF 2010 PHASE III**

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**FALL BREAK**

**SPRING SEMESTER 2009 – CLASS OF 2010 PHASE III**

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**Holiday, Monday, Jan 19, MLK Day**

**SPRING SEMESTER 2009 – CLASS OF 2010 PHASE III**

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**FALL BREAK**

**IDPT 7004, Integrated Clinicians 4, two week required course**
## SPRING SEMESTER 2008 – CLASS OF 2009 PHASE IV
*(Phase IV begins in spring of 2008)*

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<tr>
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<td>May 19 - May 23</td>
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<td>UCHSC 2008 Commencement, Friday, May 23rd</td>
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<td>May 27 - May 30</td>
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<td>Holiday, Monday, May 26th, Memorial Day</td>
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## SUMMER SEMESTER 2008 - CLASS OF 2009 PHASE IV

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<td>June 30 - July 3</td>
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<td>Holiday, Friday, July 4th, Independence Day</td>
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## FALL SEMESTER 2008 – CLASS OF 2009 PHASE IV

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<td></td>
<td>Holiday, Monday, September 1st, Labor Day</td>
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<tr>
<td>18</td>
<td>September 8 - September 12</td>
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<td>19</td>
<td>September 15 - September 19</td>
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<td>29</td>
<td>November 24 - November 26</td>
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<tr>
<td></td>
<td>Holiday, Nov 27 &amp; Nov 28, Thanksgiving</td>
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<tr>
<td>30</td>
<td>December 1 - December 5</td>
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<tr>
<td>31</td>
<td>December 8 - December 12</td>
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<td>December 13 - January 4, 2009</td>
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## SPRING SEMESTER 2009 – CLASS OF 2009 PHASE IV

<table>
<thead>
<tr>
<th>Section</th>
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<tbody>
<tr>
<td>33</td>
<td>January 12 - January 16</td>
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<tr>
<td>34</td>
<td>January 20 - January 23</td>
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<tr>
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<td>Holiday, Monday, Jan 19, MLK Day</td>
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<tr>
<td>35</td>
<td>January 26 - January 30</td>
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<td>36</td>
<td>February 2 - February 6</td>
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<td>February 9 - February 13</td>
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<td>38</td>
<td>February 17 - February 20</td>
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<td>Holiday, Monday, Feb 16th, President’s Day</td>
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<td>39</td>
<td>February 23 - February 27</td>
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<tr>
<td>40</td>
<td>March 2 - March 6</td>
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<tr>
<td></td>
<td>IDPT 8005, Integrated Clinicians Course 5, a two-week</td>
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<tr>
<td>41</td>
<td>March 9 - March 13</td>
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<td>42</td>
<td>March 16 - March 20</td>
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<td>March 23 - March 27</td>
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<td>March 30 - April 3</td>
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<td>April 13 - April 17</td>
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<td>April 20 - April 24</td>
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<tr>
<td>48</td>
<td>April 27 - May 1</td>
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<tr>
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<td>IDPT 8006, Integrated Clinicians Course 6, a two-week</td>
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<tr>
<td>49</td>
<td>May 4 - May 8</td>
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<td>required course. Moved from sections 51/52</td>
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<tr>
<td>50</td>
<td>May 11 - May 15</td>
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<td>51</td>
<td>May 18 - May 22</td>
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<td></td>
<td>UCHSC 2009 Commencement, May 22nd</td>
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UNIVERSITY OF COLORADO DENVER
HEALTH SCIENCES PROGRAMS

On July 1, 2004, the University of Colorado at Denver officially joined with the University of Colorado Health Sciences Center to create a new University, now named University of Colorado Denver (UCD). The University of Colorado Denver and Health Sciences Programs are currently located on three separate campuses in Downtown Denver, at 9th Avenue and Colorado Blvd., and at Anschutz Medical Center. This diverse new University is home to a full range of undergraduate degree programs, graduate degree programs and a wealth of options for pursuing the health sciences. The 9th & Colorado Campus, the Downtown Denver Campus and the growing Anschutz Medical Campus put UCD on the forefront of biotechnology development and innovation.

GENERAL INFORMATION
POLICIES AND PROCEDURES

This course book does not constitute a contract with the University of Colorado Denver Health Sciences Programs, either expressed or implied, and the University reserves the right at any time to change, delete, or add to any of the provisions at its sole discretion. Furthermore, the provisions of this document are designed by the University to serve as guidelines rather than absolute rules, and exceptions may be made on the basis of particular circumstances. NOTE: Students will be held responsible for complying with all requirements and deadlines published in this course book.

ACADEMIC FREEDOM

Academic freedom and diverse viewpoints are highly valued at the University of Colorado Denver Health Sciences Programs. The Laws of the Board of Regents of the University of Colorado specify that:

(1) “The University of Colorado was created and is maintained to afford men and women a liberal education in the several branches of literature, arts, sciences, and the professions. These aims can be achieved only in that atmosphere of free inquiry and discussion, which has become a tradition of universities and is called "academic freedom... Within the bounds of this definition, academic freedom requires that members of the faculty must have complete freedom to study, to learn, to do research, and to communicate the results of these pursuits to others. The students likewise must have freedom of study and discussion. The fullest exposure to conflicting opinions is the best insurance against error.... All members of the academic community have a responsibility to protect the university as a forum for the free expression of ideas.” (Laws of the Regents 5D)

(2) “By enrolling as a student in the university, a person shall assume obligations of performance and behavior established by the university relevant to its lawful missions, processes, and functions. As members of the academic community, students have responsibility, equivalent to that of the faculty, for study, learning, academic integrity, and protecting the university as a forum for the free expression of ideas.” (Laws of the Regents 7B)

(3) “All students shall have the same fundamental rights to equal respect, due process, and judgment of them based solely on factors demonstrably related to performance and expectations as students. All students share equally the obligations to perform their duties and exercise judgments of others in accordance with the basic standards of fairness, equity, and inquiry that should always guide education.” (Laws of the Regents 10).

ALCOHOL AND DRUG POLICY

The University of Colorado Denver is committed to providing a drug-free educational environment and drug-free workplace. This policy statement on drugs and alcohol is designed to ensure that UCD Health Sciences Programs comply with the Federal Drug-Free Workplace Act of 1988 and the Drug-Free Schools and Communities Act Amendments of 1989. These Acts require the University, as a recipient of federal funds, to take measures to combat the abuse of drugs and alcohol. The continuation of federal financial support for students, academic programs, and academic support services programs is based upon compliance with these statutes and their regulations.

The University of Colorado Denver prohibits the unlawful manufacture, distribution, dispensation, possession, or use of any controlled substance (illicit drugs of any kind or amount) and the abuse of alcohol by students and employees on University property or as part of any of its activities. This prohibition covers any individual's actions which are part of any University activities, including those occurring while on University property or in the conduct of University business away from the campus.

It is a violation of University policy for any member of the faculty, staff, or student body to jeopardize the operation or interest of UCD through the use of alcohol or drugs. Individuals found to be in violation are subject to legal sanctions under local, state, or federal law and to disciplinary action consistent with the Code of Student Conduct (at the Downtown Denver Campus), the Student Honor Code (Anschutz Medical Campus), the Faculty Handbook, and the State Personnel System. Sanctions to be imposed on employees and students who are found to be in violation of this policy may include requiring satisfactory participation in a substance abuse treatment, counseling, or education program as a condition of continued enrollment and/or employment, suspension or termination of employment, and referral for prosecution.
All faculty, staff, and students employed at the University acknowledge that they will, as a condition of their employment, abide by the terms of this policy. Any employee convicted of a violation of any criminal drug law occurring in the workplace must report that conviction to his/her immediate supervisor within five days. The Drug-Free Workplace Act makes strict compliance with this policy statement a condition of employment on all federal grants and contracts. The University is required to notify the relevant funding agency within ten days of learning that a violation of this policy has occurred.

University employees may contact Human Resources at 303-315-2700, for more information regarding available resources, programs and services. Downtown Denver Campus students may contact the Counseling and Family Therapy Center at 303-556-4372/North Classroom 4036, the Student Health Center at 303-556-3132, or the Counseling Center at 303-556-2525, for confidential information and/or referrals. Students at the Anschutz Medical Campus may contact the counseling network at 303-315-8159 or 720-848-9094, or their respective school student affairs offices for referral information. Information may also be obtained by calling the National Institute on Drug Abuse Hotline at 1-800-662-HELP or the National Clearinghouse for Alcohol and Drug Information at 1-800-729-6686.

**ALCOHOLIC BEVERAGES AT OFFICIAL FUNCTIONS**

UCD official functions that include the serving of alcohol require the completion of an “Alcohol Purchase Authorization” form and prior approval by the Associate Vice Chancellor for Finance and Administration. Alcohol for personal consumption at official functions is allowed only if the source of the University funds is (1) gifts restricted for entertainment, donor cultivation, or personnel recruitment purposes and (2) approved by the Associate Vice Chancellor of Finance and Administration in advance of the event.

To ensure proper management of an activity where alcohol is provided at a pre-approved official function, the following rules include but are not limited to:

1. All persons being served alcoholic beverages must be at least 21 years of age and have proper identification for proof of age.
2. An Event Manager will be present and will monitor the alcoholic beverage service area. The Event Manager/Sponsor is a responsible and accountable individual who will be present for the entire event.
3. Food items and non-alcoholic beverages will be available. These items must be available at no cost, in the same general location, and of such a variety as to make them attractive alternatives to the alcoholic beverages provided.
4. Persons checking ID’s will have knowledge of proper identification techniques and are over 21 years of age.
5. Persons dispensing alcohol will monitor individual’s consumption and not continue to dispense to persons that show signs of impairment.
6. Alcoholic beverages will not be available for individuals to pour their own. There will be no open or unattended kegs, containers, or bottles.
7. If the event lasts more than two hours, alcohol will not be served during the last hour. For events lasting less than two hours, service will discontinue at least 30 minutes prior to the scheduled end of event.
8. The entrance/exit access area will be monitored so as not to allow persons to carry in or take alcoholic beverages from the consumption area.
9. Designated drivers or other means of alternate transportation will be available.
10. Campus Police are notified in advance for on-campus events, as applicable.

For a complete listing of the University rules for managing an official function with alcohol, contact the campus controller.

**ALUMNI RELATIONS OFFICE**

The Alumni Relations office at University of Colorado Denver Anschutz Medical Campus maintains alumni association programs for the Schools of Medicine, Nursing, and Dentistry, and the Physical Therapy program. It also supports program activities for the School of Pharmacy, the Graduate School, and for alumni of the residency programs affiliated with the University.

The Alumni Relations office maintains records of alumni; arranges alumni events throughout the U.S.; coordinates alumni board meetings and activities; sponsors annual meetings, class and school reunions, and student/alumni programs; and partners with the CU Foundation to assist with alumni giving. The Alumni Relations office also publishes magazines, newsletters, bulletins, and e-newsletters for all alumni associations of the Anschutz Medical Campus.

For more information, contact the office of Alumni Relations at 303-315-8832 or toll free at 1-877-HSC-ALUM, email alumni@uchsc.edu or on the web at www.uchsc.edu/alumni.

**AUDITING**

A student may not audit courses at the Anschutz Medical Campus. Instead, a student (who has been officially accepted) may register in a course for no credit and pay the appropriate tuition and fees. Request for no credit forms are available in the Registrar’s office, Anschutz Medical Campus, Education II North Building, 3rd Floor, Student Services. Students must indicate no credit registration at the time of registration or during the drop/add period. (Please see “No Credit Enrollment”).

University of Colorado Denver Health Sciences Programs 2008-2009
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BOOKSTORE

The new AMC Bookstore, located in Bldg. 500 on the first floor (one floor up from the ground floor north of the elevators), is designed to provide convenient one-stop shopping to meet the needs of our busy faculty, staff and students. The bookstore entrance is directly east of the food court and student lounge.

The bookstore stocks a wide variety of health sciences titles for all medical professions. You will find the most current and informative resources to assist you in any subject, including review books, pocket guides and AHA materials. Special orders on any book not currently in stock are welcome. The bookstore also stocks books for leisure reading including New York Times bestsellers, regional titles, children's books, and consumer health books. Campus Authors, one of our most popular sections, is a great way to review the work and ideas of your coworkers and teachers!

The bookstore now has an expanded medical equipment and supply section, which is the largest in the Rocky Mountain region. We employ a knowledgeable staff available to help you make the best choice for any of your medical equipment needs. The bookstore carries the highest quality brands, including Welch Allyn and Littmann, which are guaranteed in stock!

Additionally, we have a large selection of CU emblematic goods, including tee shirts, sweatshirts, water bottles, stickers, and much more. Convenience items can be found such as greeting cards, office supplies, single dose medications (aspirin, ibuprofen, cold medications, etc.) and personal hygiene items. Scrubs are also available as well as lab coats which can be embroidered.

You can reach the Bookstore at 303-724-BOOK (2665). To reach our medical equipment section, please call 303-724-6651. The fax number is 303-724-6637 and you can visit our website at www.uchsc.edu/bookstore.

Printing Services

At the Printing Services customer service counter, inside the bookstore, students, faculty and staff can use self-service copiers, purchase paper – including thesis paper – by the sheet or ream, drop off printing requests, or consult with our staff on any graphic design and printing needs. Students may also apply money to an account allowing them to print at any of the on-campus computer labs.

CANCELED CLASSES

Courses listed in this publication are those currently offered by the schools and programs at the Anschutz Medical and 9th and Colorado Blvd. Campuses (UCD Health Sciences Programs). The UCD Health Sciences Programs reserve the right to cancel, postpone, divide, change the time of, and combine scheduled classes, and/or change instructors. Students enrolled in classes which are canceled will have the opportunity to add another class.

COLORADO HOUSE BILL 1023

In July 2006, the Colorado State Legislature enacted HB 06S-1023, which became effective on August 1, 2006. The legislation requires all citizens who apply for state-funded benefits that entail any payment or financial assistance provide proof that they are lawfully present in the United States.

Some of these benefits that are provided at the University of Colorado include in-state tuition, the College Opportunity Fund, some types of institutional and state-sponsored financial aid, and any other benefits for which there is an application, excluding any employment benefits.

For further information, please click www.uchsc.edu/registrar/forms.php. Select “Colorado House Bill 1023” for information, “Forms”, then “House Bill 1023” for Affidavits.

COLLEGE OPPORTUNITY FUND (VOUCHERS)

An act of the Colorado State legislature in May, 2004 established a new way for the state to provide state tax dollar support for higher education at the resident undergraduate level. At the Anschutz Medical Campus, this will pertain to resident students in the Bachelor of Science Nursing program. The state is no longer appropriating monies to institutions for these students, but is providing direct funding to these students through the “College Opportunity Fund” or “COF.” This program is also known as “vouchers” or “stipends.” Starting in fall 2006, provided that an undergraduate in-state student applies for and authorizes use of the voucher, COF vouchers will be applied to the student’s university bill. For details, Bachelor of Science Nursing students should contact the College of Nursing at 303-724-1812. For further information, go to: www.cu.edu/ums/cof/faq.html.

CONCURRENT REGISTRATION

A student may enroll for 2 courses or 6 semester hours (whichever is greater) at the CU Colorado Springs campus and the CU Boulder campus with the approval of the student's academic dean or designate. Tuition and fees will be assessed at the student's home campus rate; however, the student must be enrolled for courses on the home campus. Concurrent registration forms must be obtained from the Registrar’s office, Anschutz Medical Campus (Education II North Building, 3rd
Floor, Student Services area), then taken to the student's school/program for the appropriate approval and signature, and
returned to the Registrar’s office. Students may register concurrently during the drop/add period of the host campus.
Questions concerning concurrent registration may be directed to the Registrar’s office at 303-724-8056.

DIPLOMAS

A student planning to graduate must submit an application for diploma to the Registrar’s office, according to the schedules
below. The application for diploma is available on the web at http://www.uchsc.edu/registrar/diplapp.php.

<table>
<thead>
<tr>
<th>Graduation Date</th>
<th>Diploma Card Due</th>
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<tbody>
<tr>
<td>August 2008 graduates</td>
<td>Diploma card due February 8, 2008</td>
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<tr>
<td>December 2008 graduates</td>
<td>Diploma card due June 6, 2008</td>
</tr>
<tr>
<td>May 2009 graduates</td>
<td>Diploma card due December 5, 2008</td>
</tr>
<tr>
<td>August 2009 graduates</td>
<td>Diploma card due February 6, 2009</td>
</tr>
</tbody>
</table>

Diplomas will be awarded to approved candidates for degrees at the Annual Commencement Ceremonies for students at
the Anschutz Medical Campus or after official degree awarding dates as approved by the Board of Regents. There is a
$15 fee for mailing diplomas (for USA addresses). For diploma mailing details, please contact the Registrar’s Office at
303-724-8054.

Diplomas which have been lost, stolen, or damaged may be replaced by writing to the Registrar’s office stating the reason
for replacement. There is a $25 replacement fee for Ph.D., M.S., M.P.A.S., and B.S. The replacement fee for D.D.S.,
D.N.P., D.P.T., M.D., N.D., and Pharm.D. is $35.

DISABILITY RESOURCES AND SERVICES

The Disability Resources and Services Office (DRS) serves the needs of a large and diverse community of students with
disabilities who attend the University of Colorado Denver Anschutz Medical Campus. The DRS staff have a strong
commitment to equal access and oversee the provision of a full range of accommodations for students with disabilities.
The DRS staff also work closely with faculty and staff in an advisory capacity, assisting in the development of reasonable
accommodations that allow students with disabilities to demonstrate their abilities. Accommodations include: assistance
in identifying volunteer notetakers, alternative testing (extra time, scribe, reader), textbooks in alternate format (Braille,
enlarged, audiotape), priority registration and interpreters, and referral to the Combined Computer Access Center.

For assistance and/or information, please contact our office located at Room W1103, Building 500 @ V: (303) 724-5640
or TDD: (303) 556-8484. Email address: sherry.holden@cudenver.edu.

DROP/ADDS

See Schedule Changes.

EDUCATIONAL SUPPORT SERVICES (ESS)

Educational Support Services – a service unit focused on providing specialized technology and expertise which supports
Health Sciences Campuses/UCH faculty, staff, and students in education, research, and patient care. The following list
includes the major categories of services provided. Additional information may be obtained at the numbers listed below:

Room Scheduling
  Room Scheduling………………………………………………….303-724-8114

Classroom and Teaching Lab Support
  Classroom & Audiovisual Services…………………………….303-724-8129
  Teaching Lab Coordination……………………………………303-724-0649

Video, Multimedia and Engineering Services
  Media Production………………………………………………303-724-8119
  Distributed Education/Teleconferencing…………………303-724-1558
  Video Engineering…………………………………………303-724-8121
  Test/Evaluation Processing Center………………………303-724-7716
  ESS Computer Services……………………………………..303-724-7710

Educational Teaching Lab
  Self-Service Faculty Production Facility…………………303-724-8119

EMAIL AND WEB ACCESS FOR STUDENTS

All enrolled Health Sciences Campuses students receive an account in the campus electronic mail and World Wide Web
access system. Students will need to know their student ID number and their four-digit academic Personal Identification
Number (PIN) to access their account in the system. Student email is accessible using any Internet account via Outlook
Web Access. Students will receive their PINs at Orientation or may look them up on their student account at:
http://www.uchsc.edu/registrar Click on “Web Registration and Records” under the “Registrar’s Office” heading. Click on
“Student Sign-on Page”. On the left side of page, students will see instructions on how to access PIN. Students who
cannot access their PINs may obtain them at the Registrar's Office. Students may contact the Student Email Coordinator, Mary Mauck, 303-724-2171 or by email at student.postmaster@uchsc.edu.

Students may use shared computer workstations in school-operated labs or the Health Sciences Library. All persons using shared computers should be especially careful to log off their account when completing their work. More information is available at this web address: http://www.uchsc.edu/student/computing.htm or http://hsclibrary.uchsc.edu/email-help.

FAMILY EDUCATIONAL RIGHTS AND PRIVACY ACT

NOTICE TO STUDENT: Periodically, but not less than annually, the University of Colorado informs students of the Family Educational Rights and Privacy Act (FERPA) of 1974. This act, with which the institution intends to comply fully, was designated to protect the privacy of education records, to establish the right of students to inspect and review their education records, and to provide guidelines for the correction of inaccurate or misleading data through informal and formal hearings. Students also have the right to file complaints with the Family Educational Rights and Privacy Act officer concerning alleged failures by the institution to comply with the act. Local policy explains in detail the procedures to be used by the institution for compliance with the provisions of the act. Copies of the policy can be found in the library on each of the campuses of the University of Colorado.

The following items of student information have been designated by the University of Colorado as public or "directory information". Such information may be disclosed by the institution for any purpose, at its discretion. Name, address, telephone number, email address, dates of attendance, registration status, class, major field of study, awards, honors, degree(s) conferred.

Currently enrolled students may withhold disclosure of directory information under the Family Education Rights and Privacy Act of 1974. To withhold disclosure, written notification must be submitted to the Registrar’s office, Education II North Building, 3rd Floor, Student Services area. Forms requesting the withholding of directory information are also available in the Registrar’s office. The withholding of directory information is in effect until specifically rescinded by the student even if the student is no longer enrolled.

The University of Colorado assumes that failure on the part of any student to specifically request the withholding of directory information indicates individual approval for disclosure.

TUITION AND FEES

All tuition and fees are approved by the Board of Regents of the University of Colorado. The Board of Regents reserves the right to change fees and tuition at any time. Tuition and fees are itemized on the first billing statement of each term. For record of current tuition and fees, please see “Tuition and Fees” listed at http://www.ucdhsc.edu/admin/finance/bursar.htm.

FINANCIAL AID

The Financial Aid Office shall make every effort within published rules to ensure that financially needy students, who otherwise would not be able to attend the University of Colorado Denver due to insufficient family resources, will have the financial opportunity to attend this institution and obtain their degrees.

General Information
Financial aid is administered by the University of Colorado Denver (UCD) at the Anschutz Medical Center (AMC) Financial Aid Office, which is located in Education II – North Building – 3rd floor. Campus Box A-088; telephone 303-556-2886; fax number 303-724-8048; web site www.uchsc.edu/finaid.

How to Apply for Financial Aid
Please refer to our web site for detailed information on the application process: www.uchsc.edu/finaid.

When to Apply for Financial Aid
Prospective students who apply for financial aid must be accepted into a degree program before they can be considered for aid. However, you should not wait for formal acceptance to apply for financial aid. To apply for financial aid for the school year you wish to attend, you should start the process by completing the FAFSA on line (www.fafsa.ed.gov), as soon as possible after January 1st of the year you plan to start to attend. You must also submit the University application (this application is also available on our web site). Print and fax the application with a copy of your 2007 Federal Income Tax return to the number on the University Application for Aid. Funds will be awarded on a first-come, first-served basis when all required documentation is complete. Therefore it is very important that you submit all required documents as soon as possible.

Who May Apply for Financial Aid?
All applicants for aid must be degree candidates or enrolled in an acceptable certificate program. (If you are enrolling in a certificate program, contact our office to make sure you are in an eligible program.) Students classified as non-degree status
should contact the Financial Aid Office. Foreign students who are in the United States on immigrant or permanent visas may be eligible for financial aid and should contact the Financial Aid Office. Federal regulations governing Title IV student financial aid programs and State aid programs require that all students must maintain satisfactory academic progress in order to receive assistance. Title IV funds include, but are not limited to Federal Stafford Student Loans, Federal Parent PLUS Loans, Federal Graduate PLUS Loans, Federal Perkins Student Loans, Federal Supplemental Educational Opportunity Grant (SEOG), Pell Grant and Federal Work-Study.

**What Types of Financial Aid are Available?**

Financial aid consists of federal, state, and institutional funds. These funds generally consist of a combination of part-time employment, long-term low interest loans, grants and scholarships. State aid available for undergraduate students defines undergraduates as those students without a prior baccalaureate degree. Most financial aid is awarded on the basis of financial need. There is a state-funded scholarship for undergraduate students based on merit, and State grants awarded on the basis of financial need to graduate and undergraduate students.

Financial aid awards for the current term should be applied first toward current tuition and fee bills. After the current tuition and fee amounts have been paid, the remaining financial aid funds will be refunded to the student for living expenses.

The University reserves the right to adjust or cancel an award anytime as a result of information received that affects eligibility. It is the responsibility of a financial aid recipient to report any changes in financial, marital, and enrollment status to the Financial Aid Office. If you should receive assistance from other sources, such as traineeship, graduate fellowship, private loan or scholarship, you must report this to the Financial Aid Office. It will be necessary to repay some financial aid if the funds you receive exceed your Cost of Attendance (COA).

**Financial Aid Loan Recipients**

All new students who receive Student Loans, Federal or Institutional, in the 2008 – 2009 academic year will be required to complete Promissory Notes for each type of loan. Entrance Interviews will also be required of all UCD first time borrowers of Student Loans. New students who accept Parent PLUS or Graduate PLUS loans will also need to complete a credit evaluation. Continuing students will have already met this requirement; however, parents and students who will accept PLUS loans should know that there will be a credit evaluation if the result of a previous evaluation exceeds 90 days. For additional information, contact the Financial Aid Office.

All students who receive Student Loans, Federal or Institutional, are required to complete exit counseling prior to withdrawing or graduating. Additional information about Exit counseling is available at our web site www.uchsc.edu/finaid.

**Satisfactory Academic Progress Policy**

* **Requirements for Financial Aid**

To maintain eligibility for financial aid at UCD, you must make reasonable academic progress toward your degree. Federal law and regulations governing Title IV student financial aid programs and state aid programs require that all students must maintain satisfactory academic progress in order to receive assistance. Title IV funds include, but are not limited to, Federal Stafford Student Loans, Federal Parent PLUS Loans, Federal Graduate PLUS Loans, Federal Perkins Student Loans, Federal Supplemental Educational Opportunity Grant (SEOG), Pell Grant and Federal Work-Study.

* **Qualitative Measurement**

To be considered in good standing and making satisfactory academic progress for financial aid, students must maintain a cumulative grade point average of 2.0 for undergraduates and 3.0 for graduates. For medical students to maintain satisfactory academic progress, a cumulative grade of at least passing must be maintained.

* **Quantitative Measurement**

Course Completion Policy: Students at UCD must successfully complete 66.6% of all course work attempted in order to be considered to be making satisfactory progress in their course of study. Incomplete Grade Policy: Courses taken and not passed will be considered “incomplete” unless a grade of "IP" (in progress) is assigned. Courses that have been assigned a grade of “F”, “W”, “IW”, or “IF” or no grade assignment are also considered incomplete. Finally, courses dropped mid-term are considered to be incomplete coursework.

* **Maximum Time Frames and Increments**

Students may not exceed 150 percent of the published length of their program measured in credit hours. For example, if a school requires that a student needs to complete 100 credits in order to graduate, any given student enrolled in that program will lose their aid eligibility once they attempt 150 or more credit hours. “Attempted” credit hours include dropped classes, or classes for which a student receives a “F”, “W”, “IW”, or “IF” or any class for which the student has received no grade at all at the point of assessment. Credit hour requirements for graduation vary from school to school, and from educational program to educational program within the same school. Periods of enrollment in which the student does not apply or receive Title IV or State funds are included in the maximum time frame for aid eligibility.
Transfer Credit Hours Policy: Transfer credit hours that are prerequisites for admissions into each school or program are not counted towards the maximum time frame. These hours are required for entrance into a UCD School or program and are not applied towards the student's degree at UCD. For example, 60 credit hours or prerequisites are required for admittance into the Dental Hygiene program, and 80 credit hours of dental hygiene courses are required for the degree, the 60 credit hours of prerequisites are subtracted from the maximum time frame total. Each school or program has established policies on accepting transfer credit hours taken at other health profession schools. Those transfer credit hours (non-prerequisite hours) accepted by each school or program will be counted in the maximum time frame. For example, if a student completed an academic year at another medical school and those hours earned are counted toward the M.D. degree at UCD, the academic year at the other medical school is included in the maximum time frame calculation.

* Consequences of Violation
Suspension Policy: Failure to achieve satisfactory academic progress policy requirements will result in suspension of financial aid eligibility. Suspension will be for one academic year and makes the student ineligible for financial aid until removed from such standing based upon improved academic performance or the approval of an appeal.

* Appeal
A student on suspension may appeal by indicating to the Office of Financial Aid in writing reasons why his/her aid should not be terminated. Each appeal will be considered on its own merit. The appeal must be filed by the date specified on the written notification received from the Office of Financial Aid.

* Reinstatement
At the end of each year, academic records of suspended students will be reviewed. If it is determined that they have met the requirements for satisfactory academic progress, aid eligibility will be reinstated.

Withdrawing and Financial Aid
* Earned Aid
A student earns financial aid in direct proportion to the length of time he or she remains enrolled in the term. The percentage of time during the period the student remains enrolled is the percentage of “earned” aid that the student is eligible to retain. A student who remains enrolled beyond the 60% point earns all aid for the period.

* Unearned Aid
Unearned aid, other than work-study, must be returned. The responsibility to return unearned aid is shared by the institution and the student in proportion to the aid each is assumed to possess. The institution’s share is the lesser of the total amount of unearned aid; or, institutional charges multiplied by the percentage of aid that was unearned. The student’s share is the difference between the total unearned amount of aid and the institution’s share of unearned aid that must be returned. The institution’s share that must be returned is allocated in an order specified by federal statute, before the student’s share. After the student’s share is fully allocated, any amount owed to a grant program is reduced by half.

* Timeframe for Returning Funds
The institution must return its share of unearned aid no later than 45 days after it determines the student withdrew. If this aid was paid by the student’s Financial Aid, the student will incur a charge that is payable to the Bursar’s Office.

Students return their share of unearned aid attributable to a loan under the terms and conditions of the promissory note. The institution may allow the student to repay unearned aid attributable to a grant (after the 50% reduction), under a payment arrangement satisfactory to the institution.

* Late Disbursement
If a student withdraws prior to the second (or greater) disbursement of aid during an academic enrollment period, they will be ineligible for a late disbursement of the funds. For example, if a student withdraws on the second day of classes in the Spring term, and aid has not at that time disbursed, the student will be ineligible to receive the Spring disbursement.

* Determination of Withdrawal Date
For Financial Aid purposes, a student’s withdrawal date is based on one of the following:
* The date the student began the school’s withdrawal process or the date the student otherwise provided “official” notice (whichever is earlier) or-
* If the student didn’t notify the school, the midpoint in period or-
* If the student didn’t notify the school due to circumstances beyond the student’s control, the date related to that circumstance or-
* If the student didn’t return from approved leave of absence, the date the school determines the leave began or-
* If the student took an unapproved leave of absence, the date student began the leave or-
* The date of the student’s last attendance at documented academically-related activity.

* Leave of Absence (LOA)
For Financial Aid purposes, a student who is granted a leave of absence under the institution’s formal LOA policy need not be considered withdrawn if:
* only one leave is granted in 12 months;
* the leave does not exceed 180 days; and
* the leave involves no additional charges.
The institution must determine that there is a reasonable expectation that the student will return from the leave, and must permit the student to complete the coursework begun prior to the leave. Multiple leaves within a 12-month period are permissible for military reasons or for circumstances covered by the Family and Medical Leave Act (FMLA). The student must apply for a LOA in writing, generally before the leave begins. However, the institution may collect the student's request after the leave begins if there are unforeseen circumstances.

GRADE REPORTS

Students may obtain their grades from the Student Information System website. Go to the following page at www.uchsc.edu. Click on the "student" link. Under the "Registrar's Office" heading, click "Web Registration & Records." This will take you to the Student Sign-On page; where you will log on with your student number and pin. A complete UCD academic record is also available when you log-on to the Student Sign-On page.

GRADE REPORT SYMBOLS

The instructor is responsible for the grade assigned. Special symbols (NC and W) are indications of registration or grade status and are not assigned by the instructor.

The grading system allows various schools and programs, at their discretion, to implement a plus/minus grading system. Symbols and points are as follows:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Points per Credit Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4.0</td>
</tr>
<tr>
<td>A-</td>
<td>3.7</td>
</tr>
<tr>
<td>B+</td>
<td>3.3</td>
</tr>
<tr>
<td>B</td>
<td>3.0</td>
</tr>
<tr>
<td>B-</td>
<td>2.7</td>
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<tr>
<td>C+</td>
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<tr>
<td>C</td>
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<tr>
<td>C-</td>
<td>1.7</td>
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<td>D+</td>
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<tr>
<td>D</td>
<td>1.0</td>
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<tr>
<td>D-</td>
<td>0.7</td>
</tr>
<tr>
<td>F</td>
<td>0.0</td>
</tr>
<tr>
<td>IF</td>
<td>Automatic conversion after one academic year to F</td>
</tr>
<tr>
<td>IW</td>
<td>Automatic conversion after one academic year to W</td>
</tr>
<tr>
<td>IP</td>
<td>Coursework at the professional level; thesis, project, research rotations only at the graduate level</td>
</tr>
<tr>
<td>H/P/F</td>
<td>Credit hours count toward the degree, but are not included in the grade point average</td>
</tr>
<tr>
<td>NC</td>
<td>Indicates registration on a no-credit basis</td>
</tr>
<tr>
<td>W</td>
<td>Indicates withdrawal without credit</td>
</tr>
</tbody>
</table>

GRADUATE SCHOOL

The Graduate School administers all graduate programs leading to the Master of Science and Doctor of Philosophy degrees. For specific information regarding Graduate School programs, policies, rules, and procedures please inquire at the Graduate School office, Academic Office 1, second floor, Room L15-2609, 303-724-2915, refer to our website at http://www.uchsc.edu/gs.

GRADUATION REQUIREMENTS

Students who expect to graduate during the academic year 2008-09 must file an application for diploma (diploma card) with the Registrar’s office according to the schedule outlined under “Diplomas.” Only those students who have filed this application may be certified for graduation.

Applicants for the degree Bachelor of Science Medical Science must meet the following requirements:

1. Satisfactorily complete one year in the school or program in which enrolled
2. Satisfactorily complete 8 semester hours in each of the following areas: humanities, natural sciences, and social sciences
3. Have earned 124 semester hours in total academic credits
4. Maintain a 2.0 or better grade point average Please note that a student who has previously received a bachelor's degree in any field is not eligible for the Bachelor of Science Medical Science degree.

HONOR CODE

This campus-wide policy statement on student academic honor and conduct at the Anschutz Medical Campus was developed in consultation with faculty and student representatives from each health sciences school, and representatives of the campus-wide Faculty Council and Student Senate. It provides general policies for all students on campus, in accordance with the Regents’ resolution of March 17, 1988, while at the same time it directs the schools to develop specific procedures to implement the policy in accordance with their unique programs and student populations. While the process for resolving honor code violations may vary from school to school, the elements listed below will remain uniform. The health professions are based on a high degree of trust by the individuals they serve. Students entering the health
professions have a particular obligation, therefore, to conduct themselves at all times in a manner that reflects honesty, integrity, and respect for others.

A. Academic Honor and Conduct Code Education at UCD is conducted under the honor system. All students who have entered health professional programs should have developed the qualities of honesty and integrity, and each student should apply these principles to his or her academic and subsequent professional career. All students are also expected to have achieved a level of maturity which is reflected by appropriate conduct at all times. Although it is not possible to list every situation that violates the UCD academic honor and conduct code, the following examples will provide a reference point.

1. Academic Honesty – Students should adhere to the highest standards of academic honesty and integrity. Examples of behavior which violates these standards include: plagiarism (including improper use of web information), cheating, illegitimate possession and/or use of examinations, and falsification of official records.

2. Professional Conduct – As future health professionals, students should also adhere to the highest standards of professionalism. Examples of unprofessional conduct include: misrepresentation of effort, credentials or achievement in either the academic or clinical setting; any action which compromises the quality of patient care; violation of patient confidentiality; and other conduct unbecoming a health professional.

3. Alcohol and Drug Use – Alcohol and/or drug abuse compromises the student's ability to learn and to practice as a health provider and, thus, is considered unprofessional conduct. Students who have a problem with alcohol and/or drugs should seek assistance from services available on campus. The sale of drugs or the possession of non-prescribed narcotics or other controlled substances is against the law. In order to minimize the potential for alcohol abuse at campus functions, the following guidelines should be observed:
   a. Alcohol may not be served unless nonalcoholic beverages (in addition to water) and food are served. Food and nonalcoholic beverages must be available without cost whenever alcohol can be consumed at no cost.
   b. When events last two hours or more, service of alcoholic beverages must stop one-half hour before the close of the event.
   c. The burden of proof for showing legal age is on the consumer of alcohol. No service will be provided unless clear evidence of legal age is presented. It is the responsibility of those in charge of an event to assure that no one under age is served any alcoholic beverages.
   d. The sale of alcoholic beverages at student events is prohibited except in areas, at times, and on dates licensed by the Colorado State Department of Revenue. Please contact the Registrar's office for information on obtaining a Department of Revenue liquor permit.

4. Respect for the Rights and Property of Others – Students should conduct themselves in a manner which recognizes the rights and property of others. Examples of inappropriate behavior include theft, damage to University or personal property of others, disruption of educational or other activities on campus, illegal use of University facilities, harassment or physical assault, and any conduct which threatens the health or safety of others.

The primary responsibility for reporting violations of the student honor and conduct code rests with the individual student who has violated them. However, fellow students and members of the faculty also share in this responsibility.

B. Relationship of Honor and Conduct Code to Local, State, and Federal Laws. The University adheres to all appropriate local, state, and federal laws, and cooperates with law officials in all matters. Any alleged violation of local, state, or federal laws will be referred to the appropriate law enforcement agency, and such laws have precedence over the provisions of this policy.

C. Honor and Conduct Committee. Each school will have a standing Student Honor and Conduct Committee and, as appropriate, individual programs may have standing committees. The composition of the committee will include faculty and student representatives, with the exact composition of the committee to be determined by the dean in consultation with the school's faculty and student governance groups. The primary function of this committee will be to examine alleged violations of the honor and conduct code, and to make recommendations to the dean on these matters as appropriate.

D. Check individual school policies for school-specific procedures.

HOUSING

There is no on-campus housing at the Anschutz Medical Campus. However, the UCD campuses have a website at www.cudenverhousing.com which includes current vacancies in apartments, town homes, and throughout the Denver-Metro (including Aurora) area. Students need to print copies of the housing vacancies from the website, as hard copies are not available from the Student Assistance Office.

Students interested in ROOMMATE information should email lia.nelson-james@uchsc.edu directly to receive information on listing their information with the Student Assistance Office at the Anschutz Medical Campus. The roommates lists are compiled and held off-line, and are available solely for the use of Anschutz Medical Campus students.
IDENTIFICATION BADGES (STUDENT ACCESS CONTROL BADGES) - ELECTRONIC SECURITY

CLOSED CIRCUIT TELEVISION (CCTV)
The university has installed cameras, in key areas of the campus, to monitor and record a variety of events. Generally, they are installed on roofs, at primary entrances and in interior spaces where security monitoring is important. Note that whereas cameras are always recording, they are not always monitored. When a particular camera is involved in an alarm, the image will be displayed to the Police Dispatchers.

ACCESS CONTROL BADGES
Student Access Control badges provide photo identification, library privileges, and electronic access to locked and alarmed areas. Students are granted access to the buildings/areas needed for their particular course of study or research, as well as to the student computer center, study areas, and the student center/lounge. University policy requires that students wear badges visibly (between neck and waist) while on campus. Failure to display your badge may result in your being reported or detained as a suspicious person, as well as eviction from campus or denial of access and services.

You are required to keep your access control badge secured and immediately report a lost or stolen badge to the Electronic Security Badging Office. You are prohibited from lending or borrowing badges, admitting unauthorized personnel, or gaining unauthorized access to campus facilities. Do not hold/prop open card-controlled doors or other secured doors as this will initiate alarms to the Police Department. Misuse may result in adverse administrative action or denial of card access privileges. Badges are the property of the University and must be returned prior to graduation or separation. You may not cut, bend, or punch holes in your badge, nor expose it to heat, since this will break internal wiring and disable it for access. The badge is printed on both sides so that it is always visible. Do not place cards or other materials in the badge carrier so as to obstruct the card.

Obtaining Badges
The schools' respective administrations schedule students to be photographed for badges during registration or orientation. Each student must present either a driver’s license or state ID (each non-citizen must present a passport) before the badge will be issued. Please note that the last name on the identification must match the name used to register with the University. The Badging Staff will ask for any academic or professional credentials you may have to affix to your name.

Using Badges for Card Access
Card readers are located adjacent to card access-controlled doors. Card readers are rectangular dark gray panels which are approximately 1” in depth and 2” X 4” in height and width. To unlock a card-reader door, pass the badge slowly across the front of the card reader within a few inches of its surface. If the reader recognizes that your card has been granted access to the door, a beep will sound and a green light will illuminate. The system then unlocks the door. If the door has a door strike, you may hear a click. You will not hear a sound for magnetic locks. At this point, you will have five seconds to be detected by the motion sensor if you are before an automated door. Likewise, you are given five seconds to open the door manually at a hinged door. Please report malfunctions to the Electronic Security Office, providing your name, phone or pager numbers, the reader at which you had difficulty, the date and time of occurrence, and whether the card reader beeped. For after-hours assistance, please contact University Police. After verifying that you are authorized for after-hours access to the area, the police dispatcher will send assistance.

Electronic Security Badging Office Contact Information
Phone: 303-724-0399   Fax: 303-724-1352
Location:  Anschutz Medical Campus—Building 500 (Q20), Room N1207 (Between Student Lounge and Bookstore)
Email: IDAccess.Badges@UCHSC.edu
Web: http://www.uchsc.edu/police/IDHours.php

Electronic Security Department Contact Information
Phone: 303-724.0014  Fax: 303-724-0718
Location:  Anschutz Medical Campus – Building 407 (U09), University Police Building
Email: Robin.Brown@uchsc.edu or Kurt.Proffitt@uchsc.edu

INTERNATIONAL STUDENTS
Assistance with F-1 student and J-1 student and scholar visa status is available from the International Student and Scholar Services (ISSS), part of the Office of International Education. The office is located at the Downtown Denver Campus, Lawrence Street Center, 9th floor. There is also a satellite office on the Anschutz Medical Campus. Call 303-315-2230 for an appointment in either office to discuss the services that ISSS staff can provide for international students and scholars.

International students on F-1 or J-1 student visas are required to be registered full-time for two semesters per year. Full-time for undergraduate students is twelve (12) semester hours; full-time for most graduate students is five (5) semester hours.
UCD is authorized by the U.S. Department of Homeland Security (DHS) to issue I-20 forms and by the U.S. Department of State (DOS) to issue DS-2019 forms. These forms permit international students to apply for the appropriate visa to study at UCD. UCD is also required by the Department of Homeland Security to report the immigration, registration, and demographic status of all international students and J-1 scholars on a regular basis. International students who are enrolled in a course of study at UCD and international J-1 scholars who are visiting the campus must visit ISSS in person upon arrival at UCD to check in. International students and J-1 scholars are required to notify ISSS in person before making any changes in enrollment or immigration status, such as adding or dropping courses, changing degree level, applying for work authorization, changing a place of residence, changing positions, or applying for a change in immigration status.

International students who are enrolled at UCD on F-1 or J-1 student visas issued by ISSS, or international visitors on J-1 scholar visas issued by ISSS, who plan to leave the U.S. and re-enter to resume their program at UCD, will need to bring their SEVIS Form I-20 or SEVIS Form DS-2019 to International Student and Scholar Services for signature before departing the country.

**LIBRARY**

Students are encouraged to become familiar with the Health Sciences Library resources early in their professional studies. An active library account is required and automatically created for remote access to electronic journals and databases. Please call 303-724-2152 or visit [http://hsclibrary.edu](http://hsclibrary.edu) for general library information.

The Library provides an extensive collection of allied health, dental, medical, nursing and pharmacy resources, including more than 273,000 print and audiovisual volumes, hundreds of electronic books, and more than 23,000 electronic full-text journals.

Electronic resources may be accessed from library computer workstations and from off campus via a remote Internet connection. E-resources include PubMed, Ovid MEDLINE, CINAHL, PsycINFO, Web of Science, MDConsult, Nursing Consult, First Consult, MICROMEDEX, and many others. E-resources may be accessed by students enrolled at the Health Sciences Campuses at no charge through the library web site [http://hsclibrary.edu](http://hsclibrary.edu). Mediated online searches done by the library's professional searchers may be requested for a fee.

To access the library's e-journals, use the Find Journals search box on the library home page. A complete list of library databases can be found at [http://hsclibrary.uchsc.edu/databases](http://hsclibrary.uchsc.edu/databases). IMPULSE, the library's online catalog, includes books, older journal holdings and audiovisual materials in Denison Library, as well as nine other health sciences libraries in the Denver metro area. Prospector, a unified catalog of academic and public libraries, is linked to IMPULSE searches. Health Sciences Library cardholders are entitled to borrow materials through Prospector free of charge. Materials not available at the Health Sciences Library or through Prospector may be obtained through interlibrary loan for a fee.

- Check that your account is active, click the RENEW YOUR BOOKS link on the library home page. Use your name and Student ID number. If that doesn't work, call the Circulation Department at 303-724-2152 or email us at Circ.Library@uchsc.edu.

- Free classes are listed at [http://hsclibrary.uchsc.edu/classes](http://hsclibrary.uchsc.edu/classes); schedule library classes at alternative times by contacting library personnel.

- The library provides access to computers in a shared study space and closed study rooms on all three floors.

- Microsoft Office applications and Internet access are available on all of the library’s computers.

- Photocopies and laser printing cost ten cents ($0.10) per page

- PASCAL, the library’s storage facility for older materials located on the Anschutz Medical Campus, offers a drop-off and pick-up location for library materials.

**MEDICAL MALPRACTICE COVERAGE**

Medical malpractice coverage is provided through a Self Insurance Trust (the "Trust") authorized and established pursuant to a resolution of the Regents of the University of Colorado. This coverage is subject to the terms of the Trust's Coverage Document and extends to students, interns, residents, and other health care practitioners in-training who are enrolled at the University. As employees, servants, or volunteers of the University, all such persons are "public employees," and, therefore, their liability in any medical malpractice action is limited by the Colorado Governmental Immunity Act (C.R.S. § 24 10 114).

This coverage applies to the persons described above while they are involved in any activity or program which has received the prior approval of their respective school at UCD, regardless of where such activity or program may take place, as long as it occurs within the U.S. In the event that the activity takes place in a state other than Colorado, and a court determines that the limits of the Colorado Governmental Immunity Act do not apply, the Trust provides coverage of at least $1,000,000 per incident. For further information, please contact the Office of University Counsel, 303-315-6617.
Students who agree to participate in and are approved for a foreign exchange program are advised that the University of Colorado Self Insurance and Risk Management Trust does not provide malpractice coverage for their activities outside the U.S.

**NO CREDIT ENROLLMENT**

Students wishing to enroll for courses on a no credit basis must complete regular registration and then change from credit to no credit by obtaining a no credit form and appropriate signatures during the first five days of classes. This form is available in the Registrar’s office. Persons enrolling for no credit must pay the same tuition per credit hour as they would if they were taking the course(s) for credit. (Please see "Auditing").

**NONDISCRIMINATION (Article 10, Laws of the Regents)**

The University of Colorado does not discriminate on the basis of race, color, national origin, sex, age, disability, creed, religion, sexual orientation, or veteran status in admission and access to, and treatment and employment in, its educational programs and activities. The University takes action to increase ethnic, cultural, and gender diversity, to employ qualified disabled individuals, and to provide equal opportunity to all students and employees.

Qualification for the position and institutional need shall be the sole bases for hiring employees, and the criteria for retaining employees shall be related to performance evaluation, assessment of institutional need, fiscal constraints, and/or, in the case of exempt professionals, the rational exercise of administrative prerogative.

All students shall have the same fundamental rights to equal respect, due process, and judgment of them based solely on factors demonstrably related to performance and expectations as students. All students share equally the obligations to perform their duties and exercise judgments of others in accordance with the basic standards of fairness, equity, and inquiry that should always guide education.

The UCD Equal Opportunity/ Affirmative Action officer is Richard L. Webb and his office is at 1380 Lawrence St., Suite 1050, Denver, CO 80204. If you wish to report a violation of Article 10 or need additional information, Mr. Webb may be reached by phone at 303-315-2724, by email at Richard.Webb@uchsc.edu, or by mail to: EO/AA Compliance office, UCD, P.O. Box 173364, Campus Box 130, Denver, CO 802173364.

A statement of Article 10 may be found online at: [http://www.cu.edu/regents/Laws/Article10.html](http://www.cu.edu/regents/Laws/Article10.html). UCD procedures for investigating complaints of discrimination may be found online at:


**NORTHERN COLORADO EXCHANGE AGREEMENT**

The University of Colorado, in conjunction with the Colorado School of Mines, Colorado State University, and the University of Northern Colorado, has a reciprocal agreement by which students may take courses at participating institutions which are not offered at their home institutions. For further information, please contact the Registrar’s office, Anschutz Medical Campus, Education II North Building, 3rd Floor, Student Services area, 303-724-8059, or email at: Student.Services@UCHSC.edu.

**OFFICE of DIVERSITY**

The mission of the Office of Diversity is to promote and support a more diverse and inclusive community that acknowledges, values, fosters, and celebrates the unique qualities, rich histories, and wide variety of cultural values and beliefs that mirror and fulfill the UCD mission of education, health care, research, and community service.

Office of Diversity activities:
- Recruit, advise and support prospective students, high school and undergraduate, from underrepresented populations
- Collaborate with academic programs to provide Health Professions Opportunity Days on campus for high school and undergraduate students
- Provide information and referrals for students with academic, financial, and personal issues
- Coordinate and support the Health Careers Pre-Collegiate Development Program for high school students
- Coordinate the Undergraduate Pre-Health Program for first generation and traditionally under-represented students
- Provide support for the UCD EMAC (Ethnic Minority Affairs Committee)
- Provide support for the UCD GLBTI group
- Collaborate with academic units to recruit and retain faculty from under-represented populations
- Sponsor annual Celebrate Diversity Series
• Conduct diversity training and provide diversity programming
• Provide information and support for faculty search committees

The Office of Diversity is located in Education II North, Room 3118. The main office number is 303-724-8003.

OMBUDS OFFICE

The Ombudsperson is available to students, faculty and staff to help resolve problems or conflicts in an informal, confidential manner. This office operates outside the usual review or appeal procedures and is totally independent of any other department. The Ombudsperson is impartial and will not take sides, but will help clarify issues and direct visitors to the appropriate resources.

The Ombudsperson will listen, help to analyze the situation, identify and explain relevant university policies or procedures and will help to explore options with the visitor. Mediation services are also available. Because the Ombuds office is not involved in any formal procedures, it does not accept notice of any type on behalf of the University of Colorado Denver.

Conversations with the Ombudsperson are confidential and the identity of any individual seeking the help of the Ombudsperson will not be revealed. Please note, however, that confidentiality will not be maintained if the person has either expressly authorized contact with other individuals or the situation involves imminent threat of harm or danger.

There are three Ombuds Offices which service the University of Colorado Denver community. On the 9th and Colorado campus, the office is located in the School of Medicine in room 0403, and the Ombuds may be reached at 303.315.0563. For those on the Anschutz Medical Center campus, the Ombuds may be reached at 303.724.2950. The office is located in room 7005C in Building 500. The Downtown Campus provides an Ombuds Office in the CU Denver Building in room 107P. The Ombuds may be contacted at 303.556.4493. Walk-ins are welcomed at all locations; however, please note that our door may be locked to ensure the confidentiality of a visitor. For more information, please access the website at www.uchsc.edu/ombuds.

PARKING AND TRANSPORTATION SERVICES

A variety of services are offered through Parking and Transportation Services. These include 1) issuance of parking permits for staff, students, and faculty 2) parking for patients, visitors and other cash customers 3) coordination of special events parking and special event shuttle services 4) shuttle service between the 9th & Colorado/Anschutz Medical Center Campuses, on-demand shuttle service between the Downtown Denver/9th and Colorado/Anschutz Medical Center Campuses and a circulator service on the Anschutz Medical Center Campus and 5) sale of discounted RTD products. In addition, University Police provide an escort service during hours of darkness between a person’s vehicle and work location. For more information, please contact 303-315-5555 or the parking and transportation website at www.uchsc.edu/facilities/parking.

PERSONAL IDENTIFICATION NUMBER (PIN)

New students are notified of their personal identification numbers (PIN) during Orientation. The PIN, in conjunction with the student identification number (SID), is used to access campus email accounts, student registration and academic information, and other applications. Since you will be notified once, you are encouraged to memorize this number. If you forget your PIN or wish to change it, you may do so by going to the Web Registration and Records sign-on page, www.uchsc.edu/registrar, click on the “Web Registration and Records” to sign on to the Student Authorization page. Once you have signed on to your student account, you will see links on the left side of the page that will allow you to change your PIN or, if you have forgotten PIN, these links will provide assistance.

RESIDENCY CLASSIFICATION FOR TUITION PURPOSES

The requirements for establishing residency for tuition purposes are defined by Colorado law. (See Colorado Revised Statutes 23-7-101 et. seg. View online at http://198.187.128.12/colorado/ipext.dll?f=templates&fn=fs-main.htm&2.0.)

The statutes require that a qualified individual must be domiciled in Colorado twelve (12) consecutive months immediately preceding the term for which resident status is claimed.

An individual is “qualified” by virtue of adulthood and emancipation at age 22, marriage, or enrollment in a post-baccalaureate graduate or professional degree program. An unemancipated minor is qualified through the residency of his or her parents or legal guardians. (See below “Emancipation and Residency.”)

(NOTE: an exception to this general requirement applies to “accountable students” in the School of Medicine and School of Dental Medicine. See below section on “Accountable Students and Residency” for details.)

A person's tuition classification status initially is determined from the Verification of Residency form submitted during the application process for admission to a Health Sciences program. If a person is classified as a “nonresident,” he or she
must wait until eligible for a change in tuition classification and then file a petition for the change. Petitions that are denied may be appealed. (See below: “Petitions and Appeals.”)

The information provided here summarizes the basic components of residency classification. Please read the following material carefully and thoroughly. Questions regarding specific circumstances should be addressed to the Tuition Classification Officer at 303-724-8054 and by appointment.

Establishing Domicile

An individual must have been domiciled in Colorado for one calendar year before he or she is entitled to in-state tuition. A domicile is a person's true, fixed and permanent home. Having a domicile in Colorado involves more than mere physical presence or "residence" in the state. A person may have several places of residence but can have only one true domicile at any given time. In order to establish a domicile for tuition purposes, there must be 1) physical presence for at least 12 months within the state along with 2) demonstrated intent to make Colorado one's permanent home. Intent is demonstrated by several kinds of connections with the state dated one year prior to the beginning of classes. There is no formula or checklist to follow in establishing domicile. Generally, physical presence (as shown by rent receipts, leases or statements from landlords, home ownership, etc.) plus one connection with the state will not be sufficient to establish domicile. Several connections are necessary, and the more connections that are made, the more assurance a person has of qualifying for residency. Any connections maintained with any other state during the 12-month period for establishing domicile may be viewed as negative intent to make Colorado one's permanent home.

Objective evidence of physical connections with the state of Colorado includes

-- Driver's license, as governed by the Colorado Motor Vehicle Operator’s Licensing Law.

-- Automobile registration and license plates, as governed by the Colorado Motor Vehicle Registration Law.

-- Voter registration and voting in the most recent (Colorado) election.

-- Colorado employment and payment of Colorado income tax. Permanent, full-time, off-campus employment and payment of Colorado State income taxes are considered highly persuasive evidence of intent to make Colorado one’s permanent home. Student employment or temporary work is not considered as persuasive. It is the actual official acceptance of employment that forms the connection with the state. Income earned in another state by a resident of Colorado is taxable in Colorado.

-- Ownership of residential real property in the state, particularly if petitioner resides in the home. Petitioners should provide documentation of the contract date, as well as of the closing date.

-- Graduation from a Colorado high school and/or continued presence in Colorado during periods when not enrolled in college, or during periods between academic sessions.

-- Any other factor(s) peculiar to the individual that show intent to make Colorado one's permanent home (for example, obtaining licensure or certification to practice a profession in Colorado). Bank accounts, seeking dental or medical care, marrying or divorcing in the state are matters of convenience because one happens to be present in the state and are therefore not the kinds of connections with the state that show intent to make Colorado one's permanent home. Leases and rent receipts prove physical presence but do not otherwise qualify as connections with the state.

Note: It is the student's responsibility to be fully informed of the laws of Colorado that govern any of the "connections" made in establishing domicile, including vehicle ownership and operation, voter registration, payment of income tax, property ownership, etc. Noncompliance with these laws establishes a negative presumption of intent to make Colorado one’s permanent home and will be weighed against any affirmative evidence of a Colorado domicile.

Evidence indicating domicile outside Colorado includes

-- Failure to pay Colorado state income tax (if your income is sufficient to be taxed). Income earned in another state by a resident of Colorado is taxable in Colorado. Filing a nonresident Colorado tax return is persuasive evidence of domicile outside Colorado.

-- Failure to comply with any law imposing a mandatory duty on a permanent resident of Colorado. Examples include failure to register a motor vehicle and failure to change your driver’s license to Colorado within the statutory periods.

-- Return to your former state of residence for a substantial period of time during the summer or during other periods when not enrolled as a student or between academic sessions.

-- Maintenance of a home in another state.

-- Prolonged absence from Colorado, except for military or civilian government service or for temporary absences required by an employer.
Any other factor particular to your situation that indicates non-Colorado domicile. Examples include applying for a loan or receiving college financial aid from another state where domicile in that state is a condition for receiving funds, and voting or registering to vote in another state.

Accountable Students and Residency

Accountable students at the University of Colorado Denver, Anschutz Medical campus -- are persons who, as of the date of their selection for admission into a UCD professional health care program (currently students in the Schools of Medicine and Dental Medicine), will not be receiving funding from the state of Colorado or a cooperative state for any portion of the costs incurred in participating in designated UCD professional health care programs. Prior to matriculation, accountable students must agree to the terms of an accountable student contract (including payment of in-state tuition plus associated accountable student fee) for the duration of their professional degree training.

The Accountable Student Program for Students in Health Sciences Professions was enacted in 2006 by the state legislature. The Health Sciences Center implemented this program for the Schools of Medicine and Dental Medicine effective with the 2006-07 academic year. This legislation essentially uncoupled residency status from tuition classification for students classified as accountable students, who each year pay in-state tuition plus an associated accountable student fee.

Accountable students, once designated and having signed the accountable student contract, are bound by the terms of their contract for all years of their studies, including their agreement to pay the accountable student fee regardless of residency status. They may, however, petition for Colorado residency status in order to qualify for other forms of financial assistance available to eligible students who are Colorado residents. Establishing residency status also will allow accountable students the benefit of in-state tuition rates in other degree programs should they choose to enroll in a second degree program (e.g., Master of Science in Public Health, or Master of Business Administration). Petitioning for in-state residency status normally is undertaken after a student has been in Colorado for a year and before his/her second year of studies. Petitions are available from and processed by the Registrar’s Office. Specific questions about residency classification should be addressed to the Tuition Classification Officer in the Anschutz Medical Campus Registrar’s Office (Education II North Building, Room 3206; telephone: 303-724-8054).

Emancipation and Residency

A person must be legally emancipated before he or she is “qualified” to establish a domicile separate from the domicile of one’s parents. Emancipation for tuition purposes takes place automatically when a person turns 22 years of age, or marries, or commences a post-baccalaureate degree-granting program. The clock then starts for establishing domicile (physical presence and intent) and the student must wait 12 months to become eligible for in-state tuition.

A person who is unmarried and under 22 years of age at the beginning of the one-year waiting period and who wishes to claim "emancipated minor" status must prove that he or she is completely self-supporting and financially independent of his or her parents or legal guardian(s).

The following constitutes evidence of emancipation; however, no one criterion, taken alone, can be considered conclusive evidence of emancipation.

-- Affidavit from parents or legal guardian(s) (found on the back page of the petition) stating relinquishment of any claim or right to the care, custody, and earnings of the minor, as well as the duty to support the minor, with documentation of the fact that the minor has not been claimed as a tax deduction on income tax returns. (If a minor claims emancipation as of August 1 of a given year, and the parents have supported the minor from January 1 to August 1, the minor may be claimed for that given year, since the parents provided more than half of the support of the minor for that year.)

Emancipation under these circumstances is the act of the parent and not of the child. If there is a duty to support the minor, as, for instance, a court order in a divorce decree, there is no emancipation.

-- Lack of any financial support provided by the parents (including trust funds), coupled with proof that the minor can independently meet all of his or her own expenses, including the cost of education.

-- Entry into military service.

Unemancipated minors may qualify for in-state tuition only when their parent(s) or legal guardian(s) are domiciled in Colorado. An unemancipated child of divorced or separated parents can be immediately classified as in-state if either parent has been domiciled in Colorado the requisite period of time, regardless of which parent was granted custody or duty to support the minor by court decree. The parent in this instance is always the one to complete the petition for in-state classification, based on the parent’s domicile and connections with the state.

Four-Year Rule

Students whose parents maintain a Colorado domicile for four years and then establish domicile elsewhere, will remain eligible for in-state tuition if:

a) The parents leave Colorado after the student completes his or her junior year of high school and if the student enrolls at a Colorado public college or university within three years and six months after the parents leave Colorado. The student need not remain in Colorado when the parents leave or be emancipated from the parents.
b) The student maintains continuous Colorado domicile. The student need not be emancipated. This provision generally will be met if the student continues to reside in Colorado after the parents leave or if the student resides outside the state only temporarily (for example, to attend college or for military service) while maintaining Colorado domiciliary connections such as voter registration and income tax filing.

**Military Service and Residency**

Active-duty members of the armed forces of the United States and Canada on permanent duty stationed in Colorado and their dependents (as defined by military regulations) are eligible for in-state status, regardless of domicile or length of residence in Colorado. The military member must have reported to a duty station in Colorado, as certified by their military command, by the first day of class of the applicable academic term. To obtain this in-state tuition rate, the student must submit a Certification of Military Status Form signed by their Base Education Officer verifying their active military status and permanent duty assignment in Colorado, along with a copy of the military identification card. Dependents must present verification of the active military person on permanent duty, along with a copy of the military dependent identification card. This certification must be signed and submitted to the Registrar’s office no earlier than 90 days prior to the first day of classes and no later than 10 working days from the first day of the term. The certification must be completed and submitted each semester.

If the parent was on active duty in Colorado at any time during the student’s senior year of high school in Colorado, the student retains in-state status if the parent is transferred outside Colorado (but not if the parent retires). The student must enroll in a public institution of higher education in Colorado within 12 months of graduation, but cannot have attended college outside Colorado.

Military dependents continuously enrolled in a Colorado college continue to qualify for in-state tuition if the military member is transferred outside Colorado (but not if the parent retires).

Unless the student meets the requirement for domicile in Colorado for one year as detailed above, this eligibility expires as of the first term that begins after retirement or loss of dependent status.

To retain domicile during an absence from Colorado due to military orders, military personnel must maintain Colorado as their state of legal residence for tax purposes, and voters must maintain Colorado voter registration.

Military personnel may retain legal residence in their original state, or they may establish a new legal residence in a state in which they reside due to military orders. They may not establish domicile in Colorado while residing elsewhere or while being physically present in the State only on a temporary basis.

Persons domiciled in Colorado for one year who enter active duty military service, and who return permanently to Colorado within 6 months of discharge, and their dependents, qualify for in-state tuition regardless of changes of domicile while on active duty.

**Civilian Absences from the State**

 Civilians who accept overseas employment, governmental or otherwise, or temporary employment in another state, or who are temporarily absent from Colorado for other reasons, must continue to file Colorado state income tax returns as residents for each and every year of their absence from the state. They must claim and pay taxes on all of their earnings, wherever earned, and will receive a credit for taxes withheld by or paid to another state. Civilians, like military personnel, are allowed to back file for all years of absence, and refusal to back file is sufficient evidence by itself to determine that the civilian has relinquished, renounced, and abandoned his or her Colorado domicile for tuition purposes. This is so even if the civilian has retained Colorado driver's license, license plates and voter registration.

**Permanent Resident Aliens and Visa-Holders**

Persons who are lawful permanent residents or who are admitted as refugees are eligible to establish domicile for tuition purposes.

Nonimmigrant aliens who are residing in Colorado for purposes other than education may qualify for in-state status after one year of Colorado residence. The nonimmigrant categories subject to this provision are determined by the Colorado Commission on Higher Education. Nonimmigrants in the following categories cannot qualify for in-state tuition: F-1, F-2, H-3, H-4 (if the visa holder is the spouse or child of an H-3), J-1 and J-2 (if the J-1 visa holder is a student or trainee), M-1, and M-2.

**Petitions and Appeals**

Petition forms for requesting in-state residency status are available online at the UCD Anschutz Medical Campus student services web page (http://www.uchsc.edu/registrar/) or from the Registrar’s Office, Education II North Building, Student Services area. The petition must be notarized and should be filed one or two months before the start of the term for which one wishes to qualify. The deadline for submitting petitions for a given term is the last day of late registration for the student’s program of study. Dates are published in the UCD Anschutz Medical Campus Course book (available on the Web at http://www.uchsc.edu/registrar/coursebook/). The date of the last day of late registration is also the date that is
used to determine whether or not a person has been domiciled in Colorado for the requisite twelve months in order to qualify for residency status. At all times in the classification procedure, it is the student's responsibility to present all requested information and to meet the appropriate deadlines. Only photocopies of requested documents should be submitted with the petition because all information submitted becomes part of the student's file and cannot be returned to the student. Failure to provide all requested information and documents will invalidate a request or petition for in-state status. The student is notified of the University's decision by email and regular mail.

Any student who is denied in-state tuition classification by the Tuition Classification Officer may appeal that decision to the Residency Appeals Committee. The Residency Appeals Committee is composed of a representative from each University of Colorado campus. A student wishing to appeal a decision should contact the Registrar's Office for instructions. The decision of the Residency Appeals Committee is final. Residency appeals must be submitted, in writing, to the Office of the Registrar (303-724-8054) no later than 10 working days after the student receives the Tuition Classification Officer's decision. There will be no retroactive changes in classification.

**Frequently Addressed Points and Important Legal Notes**

Because Colorado residency status is governed solely by Colorado regulations, lack of eligibility for in-state status in another state does not guarantee in-state status in Colorado. The tuition classification statute places the burden of proof on the student -- not the University -- to provide clear and convincing evidence of eligibility.

Information submitted to qualify for in-state classification is subject to independent verification. Individuals submitting false information or falsified supporting documents are subject to both criminal charges and university disciplinary proceedings.

Tuition classification is governed by state law and by judicial decisions that apply to all public institutions of higher education in Colorado. The University of Colorado does not have discretion to make exceptions to the rules as established by state law.

There are many different kinds of residency. A person can be a resident for voting purposes or motor vehicle law purposes and still not be a resident for tuition purposes because each kind of residency is governed by a separate state statute.

Marriage to a resident does not automatically qualify a student for in-state tuition. Colorado has passed a state Equal Rights Amendment to the Colorado Constitution -- which means that each person is treated equally. Each person, male or female, must qualify based on his or her own legal connections with the state.

**New Law: Proving Eligibility for State Benefits (Effective August 2006)**

In 2006 The Colorado State Legislature passed HB1023, which requires the University to gather additional information for any student who applies for and receives any form of federal, state or local public benefits, including in-state tuition and merit, need, or other institutional financial assistance through a state institution of higher education. Any student who has not applied for financial aid by filing the FAFSA, or applied for the College Opportunity Fund must also sign an affidavit stating that he/she is lawfully present in the United States and present appropriate identification to the Registrar's Office in order to receive benefits. You can find more information as well as the affidavit at: [www.cudenver.edu/Admissions/Registrar/House+Bill+1023/default.htm](http://www.cudenver.edu/Admissions/Registrar/House+Bill+1023/default.htm)

**SCHEDULE CHANGES**

**Dropping Courses**

Students are permitted to drop courses during the first 10 class days of the fall and spring terms. Students are permitted to drop courses during the first 5 days of the summer term. Dropped courses will not appear on the student's transcript.

After the fifth (summer) or tenth (fall, spring) day of the term, courses can no longer be dropped. A student can withdraw from the courses by completing a course withdrawal form. Both the instructor's and the appropriate school/program signatures are required on this form. Tuition will not be refunded, even if the withdrawal is allowed. A grade of "W" will appear on the transcript.

**Adding Courses**

Students normally may add courses to their original registration during the first ten (10) days of the Fall and Spring terms and during the first five (5) days of the Summer term, provided there is space available and subject to the rules of the college/school offering the course. Students receiving VA benefits must report added classes to the veteran's representative in the Financial Aid office.
SEXUAL HARASSMENT POLICY

The University of Colorado is committed to maintaining a positive learning, working, and living environment. In pursuit of these goals, the University will not tolerate acts of sexual harassment or related retaliation against or by any employee or student.

Sexual harassment: consists of interaction between individuals of the same or opposite sex that is characterized by unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature when: (1) submission to such conduct is made either explicitly or implicitly a term or condition of an individual's employment, living conditions and/or educational evaluation; (2) submission to or rejection of such conduct by an individual is used as the basis for tangible employment or educational decisions affecting such individual; or (3) such conduct has the purpose or effect of unreasonably interfering with an individual's work or academic performance or creating an intimidating, hostile, or offensive working or educational environment.

Hostile environment sexual harassment: (described in subpart (3) above) is unwelcome sexual conduct that is sufficiently severe or pervasive that it alters the conditions of education or employment and creates an environment that a reasonable person would find intimidating, hostile or offensive. The determination of whether an environment is "hostile" must be based on all of the circumstances. These circumstances could include the frequency of the conduct, its severity, and whether it is threatening or humiliating.

Retaliatory Acts: It is a violation of this policy to engage in retaliatory acts against any employee or student who reports an incident of alleged sexual harassment, or any employee or student who testifies, assists or participates in a proceeding, investigation or hearing relating to such allegation of sexual harassment.

University of Colorado Denver (UCD) Sexual Harassment Policy Campus Appendix

A. Introduction

The University of Colorado System Administrative Policy Statement (APS) on Sexual Harassment Policy and Procedures may be obtained from the UCD Sexual Harassment Officer (see below) or found online at: http://www.cu.edu/policies/Personnel/sexharass.html. Section F. of the APS requires that each campus maintain a campus appendix to the Sexual Harassment Policy. This appendix complies with the APS requirements.

B. UCD Sexual Harassment Officer

If you need to report sexual harassment, or if you have any questions regarding sexual harassment or the Sexual harassment Policy, please contact the UCD Sexual Harassment Officer at 303-315-2724; send correspondence to P.O. Box 173364, Campus Box 130, Denver, CO 80217-3364; or email to Richard.Webb@uchsc.edu.

C. Campus Resources

The Ombuds Office is a resource available to all members of the University Community. The Ombuds Office has responsibility for confidential, neutral and informal conflict resolution of situations that involve the faculty, staff, students, and their supervisors or alleged perpetrator(s). This expertise is extremely valuable in understanding and utilizing the Sexual Harassment Policy. The office serving the Downtown Denver Campus may be reached at 303-556-4493. The office serving the 9th Ave. and Anschutz Medical Center Campuses may be reached at 303-315-0563.

The UCD Department of Human Resources is located on the Downtown Denver Campus, and may be reached at 303-315-2700. The department provides services to faculty, exempt professional and classified staff.

UCD and Auraria Police Department: The police respond to reports of on-campus criminal conduct, including sexual assault or other serious allegations of sexual harassment in which the complainant believes that their safety is threatened. Allegations of serious sexual harassment should be reported to the Police Department if they occur during or after hours or weekends, or immediately to the sexual harassment officer during business hours. The Police Department makes appropriate referrals of non-criminal complaints. The emergency phone number for police serving all campuses is 911.

The CU-Denver Student and Community Counseling Center provides mental health counseling services to the UCD student body as well as the Denver Metro community. The Center is located in room 4036 of the North Classroom Building on the Auraria Campus; phone 303-556-4372.

D. Exception to the Obligation to Report

The Sexual Harassment Policy obligates supervisors who experience, witness or receive written or oral reports or complaints of sexual harassment to promptly inform the sexual harassment officer. The policy also requires that exceptions to this requirement be identified. The Ombuds Office at UCD is not required to inform a sexual harassment officer of confidential communications, including information regarding sexual harassment.

SPECIAL NON-DEGREE STUDENT

A non-degree student is defined as any student who has not been formally admitted to an undergraduate, graduate, or professional degree program at the University. Non-degree (except those admitted to a formal certificate program) students may apply and register on the dates specified below.
College of Nursing courses: Please contact the Professional Development and Extended Studies office, 303-724-1372, for registration information.

Graduate Basic Sciences and Public Health courses: Application/registration forms are available on the web at www.uchsc.edu/registrar/forms.php. They must be submitted during the official add/drop period of the term (first 10 days of fall and spring terms; first 5 days of summer term).

**STUDENT ASSISTANCE OFFICE**

The Student Assistance Office (SAO) provides specific services to support and complement students’ academic learning. The office website is www.uchsc.edu/studentassistance.

The office provides current housing information, child care resources, general assistance, intramural sports coordination (flag football, ice hockey, basketball, and volleyball), CU Buffalo football ticket sales (limited quantities available), counseling referral, learning assistance/tutoring services, student governance (Student Senate) advising, notary public service, FAX service (free local and long distance, and you can receive faxes here too!) and more.

The Student Assistance Office is located in Ed II North, in the Student Services are on the 3rd Floor (Room 3123). Visit the SAO for further information. 303-724-7686.

**STUDENT GOVERNMENT**

The Anschutz Medical Campus Student Senate is this campus’ student governing body. The Senate is composed of two elected representatives from each class of the various disciplines at the Health Sciences Campuses, including the School of Medicine, School of Dental Medicine, College of Nursing, Graduate School, School of Pharmacy, Child Health Associate Program, Physical Therapy Program, and Dental Hygiene Program. It should be emphasized, however, that input to the Senate is in no way restricted to elected senators. All Senate meetings are open to any interested students, and participation by non-Senate members is greatly encouraged. Only through direct participation and conscientious election of senators who reflect the majority opinion can students insure that their views are being accurately represented. Meetings are typically scheduled the 2nd and 4th Monday of each month at 5:30 p.m. The meetings take place in Ed II North. The Senate officers serve from June through the following May, senators serve from September through May.

The primary focus of the Senate is the promotion of interdisciplinary contact and cooperation between those various disciplines at the health sciences campus. The Senate is the only vehicle through which the feelings and opinions of the entire student body can be conveyed to the administration, faculty, and others. Through past efforts, the Senate has established an excellent working rapport with the administration, and the opportunity for meaningful student input in the modification of Anschutz Medical Campus campus-wide policy is evident.

The Senate has student representatives on a number of campus committees such as Welcome Weekend Committee, Chancellor’s Campus Life Committee, the Chancellor’s Governance Committee, Student Fee Review Committee, Academic Support Committee, and the Intercampus Student Forum. Internal committees include Senate Executive Committee, Finance, Philanthropy, Student Life, Diversity, Communication, and Legislative Affairs Committees. Senate members also have representatives on short-term committees throughout the campuses.

Attendance of the Student Senate president at the monthly Regent meetings is encouraged.

Students are encouraged to discuss issues which concern campus matters with their Senate representatives and encourage the Senate to report regularly on information and issues discussed at Senate meetings. Meetings are open to all students, with voting privileges limited to two senate votes per class.

The Senate sponsors various social events throughout the year and has funding available to assist students who incur expenses related to extracurricular professional development. Fund request forms can be obtained from senators or from the Student Assistance office, 3rd Floor (3123) of Ed II North. Please visit Senate’s website at www.uchsc.edu/student/senate.

**STUDENT HEALTH**

All degree students enrolled in 5 or more credit hours must be insured through the UCD Anschutz Medical Campus (AMC) student insurance unless the student can prove that he/she has comparable insurance coverage elsewhere. For detailed information about the AMC insurance plan, including outpatient, in-patient, and dental, see the website at www.uchsc.edu/studentinsurance, or contact the Student Insurance office at 303-724-7674. The waiver form (emailed to each student also available on-line or at the Student Insurance Office) outlines criteria for comparable insurance. If you wish to waive the student insurance, you must submit a waiver form and provide a copy of your insurance card as well as benefit information to the Student Insurance office located in Education II North Building, room P28-3207. The deadline for waiving or enrolling in insurance is June 16, 2008, for the summer term and September 8, 2008, for the fall term. AFTER THE DEADLINES, YOU WILL BE RESPONSIBLE FOR THE INSURANCE FEE, WHICH IS AUTOMATICALLY CHARGED ON YOUR TUITION BILL. Additional information will also be provided during orientation or by calling the Student Insurance office at 303-724-7674.

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TRANSCRIPTS

Transcripts are the permanent and unabridged student educational record. Incompletes, failures and withdrawals are not expunged. Transcripts will not be issued if you have overdue financial obligations, or other obligations to the University of Colorado.

1) Transcripts ordered online through your student account will be mailed out the next business day. To order transcripts through your student account, go to: www.uchsc.edu/registrar, click “Web Registration and Records.” At the student sign-on, enter your student id and pin, click the “records” tab and then the “transcript” tab.

2). Request forms are available to download at the AMC Registrar’s Office web page: www.uchsc.edu/registrar. You may also submit a written request for official transcripts. Mail to:

Office of the Registrar, A054
University of Colorado Denver
13120 E 19th Avenue
PO Box 6508
Aurora CO 80045

Include on your request:
- your name, and any previous names under which you attended
- your student number
- your date of birth
- your current address
- the time span you attended
- campus and college/school attended
- whether you want the transcript held for this semester's grades or for your degree to be posted
- number of transcripts requested
- agency, college, or individuals and the address to which the transcript is to be sent
- your signature and the date

Transcript requests (no charge) are processed within five to seven working days from the date the request is received in the Registrar’s office. Transcripts sent to you will be marked “issued to student.” If you are applying to another college or university, have the transcript sent directly to that institution.

Priority Services Options
Priority service is provided for a charge based on the extra clerical time and/or additional mailing expenses required to process the request. For more information for priority transcript services, please see information at the AMC Registrar’s Web-site at: www.uchsc.edu/registrar/transcript request or directly contact the Downtown Denver campus at:

Transcript Office – Downtown Denver Campus Phone: (303) 556-2389
Campus Box 167 Fax: (303) 556-4829
P.O. Box 173364
Denver, CO 80217-3364

TUITION DEPOSIT

A deposit of $200 is required of each student entering a school or program at the UCD – Anschutz Medical Campus (AMC) in order to reserve a position in the class. This $200 deposit will be applied to tuition, fees, or any other student obligation at the end of the last term of attendance at UCD. All $200 deposits are invested, and 100% of the earnings from these deposits are assigned to Student Financial Aid for distribution to students by program on the basis of need. The $200 deposit is due within two weeks of receipt of the admissions offer and is refundable up to 60 days prior to your actual registration date.

The following policy, as agreed to by each of the Schools of the Anschutz Medical Campus, details how student tuition deposits will be handled. This policy pertains only to the tuition deposits paid by students who either never attend classes at UCD AMC or who leave before completing their course of study. The tuition deposit policy for students who finish their course of study is already detailed above.

1. Refunding tuition deposits for first-time students.
   1. If a first-time student notifies a school 60 days or more before the first day of the term for which he or she was accepted that he or she will not be attending UCD, the tuition deposit will be refunded to the student. Each School will notify the Bursar’s office in writing or email shortly after the 60-day limit so that the Bursar’s office can make the necessary entry to the student’s account to refund the deposit.
2. If a first-time student notifies a school 59 days or less before the first day of the term for which he or she was accepted for that he or she will not be attending UCD, the tuition deposit will be forfeited. The deposit will go to the school that the student would have attended. 

3. If a first-time student starts to attend class and then withdraws, the deposit will be handled based on whether or not there are charges on the student’s account. If there are, the deposit will be applied to the balance due. If there are no charges, the deposit will be refunded to the respective school. For students who fall into categories 2 or 3, each school will notify the Bursar’s office in writing or email shortly after the add/drop period for each term so that the Bursar’s office can make the necessary entry to the student’s account to either apply the deposit or refund the deposit to the school.

2. Refunding tuition deposits for continuing students.

If any continuing student (defined as any student who completes his or her first term of study) leaves UCD for any reason, the tuition deposit will be refunded to the student. This could result in the deposit being applied to a balance due or being refunded to the student. Each school will notify the Bursar’s office in writing or email when it is aware of such a student so that the Bursar’s office can make the necessary entry to the student’s account to apply the deposit. Occasionally, a student will obtain an official withdrawal form and present it at the Bursar’s office for approval. In that case, the Bursar’s office will apply the tuition deposit to the student’s account immediately. The respective school will not have to notify the Bursar’s office in this case.

TUITION AND FEE REGULATIONS

Tuition and fees shall be recommended by the UCD Budget office and the Colorado State Legislature. The Board of Regents shall review and approve the schedules of tuition, fees and refund policies.

A list of current charges is available at the Registrar’s office, Anschutz Medical Campus (Education II North 3rd Floor) when final approval is given by the University of Colorado Board of Regents.

Tuition for Courses Taken for No Credit

Tuition for courses taken for no credit (NC) is the same as for courses taken for credit.

Fractional Credit

Fractional credit is regarded as 1 hour in assessing tuition and fee charges.

Drop/Add Tuition Adjustment

Complete adjustment of tuition and fees will be made on drop/add changes through the first ten days of classes only. No refunds for any changes will be made for withdrawing from courses after the tenth day of classes. Charges will be assessed for the addition of courses. Students who believe they dropped a class within the term but who were still charged for that class should contact their school’s Admissions/Student Affairs office to file a formal appeal. If the respective school believes that the circumstances justify relief from the tuition charges, the school will work with the Registrar’s office to drop the student from that class. Please note that dropping all classes for a particular term is considered a withdrawal, whether or not the student officially withdraws from the University.

Late Registration Penalty

A late registration penalty will be charged to students who are authorized to register after their regular registration period. The late registration penalty is $60.

Matriculation Fee

There is a one time non-refundable matriculation fee of $140.00 for any student new to the UCD Anschutz Medical Campus. This fee will be assessed at the time of initial registration.

Payment of Tuition and Fees

Students enrolling at UCD are responsible for full payment of tuition and fees. Students should be prepared to pay their bills in full. Tuition and fees are due and payable on Census date of each semester. Census date is generally the end of the second week of classes in fall, spring and end of first week in summer.

Failure to receive a tuition bill does not dismiss the student from his or her obligation for payment. Failure to pay tuition does not cancel classes and therefore does not eliminate or reduce the financial obligation. Students are financially liable for all classes for which they are registered. Failure to attend classes does not cancel a student’s registration. Note: stopping payment on a check does not cancel classes.

The student’s initial bill will be comprised of tuition and fees for the current term as well as any fees to cover the period from the current term until the following August 31. The initial bill may also include any credits due for the employee tuition reduction, advance payments and deposits and financial aid when applicable. Students with unpaid tuition balances will not be allowed to register for subsequent semesters nor will they be allowed to obtain a copy of their transcript.

Credit Cards

The UCD Bursar’s Office does not accept credit cards for the payment of tuition and fees at the Anschutz Medical Campus primarily due to the administrative fee charged to the institution which would have to be passed on to the students in the form of higher tuition charges. The interest rate charged on credit cards normally exceeds that of the institutional funds available to students, and the institutional funds also have more favorable payback terms than do credit cards.
Service Charges
A monthly service charge of 1.75% will be added to a student account if the account is not paid in full. This charge will be assessed to a student account that has an unpaid balance on the last day of the month in which the tuition and fees are due and each month thereafter.

Delinquent Accounts
Students who do not pay the charges for one term by the end of the term in the following term will be subject to in-house collections. Accounts referred for in-house collections will have a service fee of twenty percent added to the balance due.

Enforcement
By Colorado statute, the University is not permitted to determine the timing nor the agencies to which we refer delinquent student accounts. State law and administrative policies enacted are specific as to the procedures we must follow. Collection activity is now at the discretion of Central Collection Services for the State of Colorado. Once an account has been referred to this agency, the following actions will be taken:

1. No transcripts will be issued for the student until the bill is paid in full;
2. Service charges of 1.75 percent per month will continue to be assessed;
3. Your account will be reported to the credit bureau.

Appeals
Students who disagree with a decision made by the Bursar's office for charges assessed or enrollment holds due to account balances may appeal in writing to the Fee Payment Appeals Board for reconsideration. The board, chaired by the Bursar, consists of two Associate Deans of Students Affairs, one of whom shall be from the appropriate school, a student from the appropriate school, the Director of Admissions and Student Services, the Registrar, the Director of Financial Aid, and the Director of the Office of Diversity. Appeals must be made in writing to the Bursar and must be received within 10 days of the student’s initial request to have a charge or registration hold decision reversed. The Board will notify the student in writing of its decision within 10 business days of the receipt of the request.

Personal Checks
There is a $25.00 returned check fee on all items returned by a financial institution.

Refunds and Withdrawal Charges
No withdrawal is valid without the written consent of the dean or dean's designee of the school or program in which the student is registered. If a student withdraws from the University, NO refund of tuition will be granted. Fees are also non-refundable.

The deans or their designees of the various schools at the Anschutz Medical Campus may, under extenuating circumstances, waive all or a portion of tuition charges and those fees recorded in the school's accounts upon a student's withdrawal or dismissal from school. Students requesting tuition relief due to a withdrawal for unforeseen circumstances should contact their school’s Admissions/Student Affairs office to file a formal appeal. If their respective school believes that the circumstances justify relief from the tuition charges, the school will work with the Registrar’s office to enter the appropriate tuition rebate percentage on the student account.

The University must follow specific federal refund calculations for students receiving financial assistance and who withdraw from school. The University is required to determine the correct refund applicable to first-time students who withdraw within the first term and the refund for continuing students who withdraw within the first term and the refund for continuing students who withdraw. For further information on the required refund policy for students receiving financial aid, please see the UCD Financial Aid bulletin on Withdrawing and Financial Aid. This bulletin is available in the student Financial Aid office, located in the Education II North Building, 3rd Floor.

TUITION WAIVER
Permanent faculty and staff of the University of Colorado may be eligible for a tuition waiver for courses taken for credit within the University of Colorado system (depending on their employee job classification).

Eligible employee job classes include faculty (at the rank of instructor or above), permanent full- or part-time classified employees, unclassified employees, or professional exempt employees. Full-time employees may be allowed up to six (6) semester hours in an academic year (June through May) on a space available basis. Part-time staff may be allowed a percentage of hours based on their appointment.

Employees are required to fill out the tuition waiver form for the campus where they will attend classes; however, eligibility for the waiver must be determined and approved by the HR representative at their home institution.

Payment for fees and tuition for any additional hours taken are the responsibility of the student, and should be paid on receipt of bill. Late payments will result in late fees and service charges.

Waiver forms are available in the Registrar’s office, Education II North Building, 3rd Floor, Room 3202. Registration will be completed during the Drop/Add period on a space available basis, and the Waiver Form will be forwarded to Human Resources for verification of employee eligibility and returned to the Registrar’s Office.
UCD AND AURARIA POLICE DEPARTMENTS

The police respond to reports of on-campus criminal conduct, including sexual assault or other serious allegations of sexual harassment in which the complainant believes that their safety is threatened. Allegation of serious sexual harassment should be reported to the Police Department if they occur during or after hours or weekends, or immediately to the sexual harassment officer during business hours. The Police Department makes appropriate referrals of non-criminal complaints. The emergency phone number for police serving all campuses is 9-1-1.

EMERGENCY NUMBERS
9-1-1 from all campus phones
303-724-4444 from a cell/non-campus phone

The University of Colorado Police Department provides service at the 9th & Colorado Campus and at the Anschutz Medical Campus in Aurora for the safety and security of students, staff, patients, faculty, and visitors. Responsibilities include the protection of life and property, detection of crime, enforcement of laws and regulations, investigations, parking control and building security, crime prevention and community education.

The University Police Department provides the following services to the campus community:
• Twenty-four hour services
• Evening/night shuttle service to your vehicle
• Fingerprinting services
• Bicycle registration
• Motorist assistance – Jump-starts
• Lost and found services
• Crime prevention programs
• Building/room access
• ID/Access cards

For more information on these or other services, contact the University Police at:
X4-2000 (303-724-2000) for service requests and additional information/administrative questions

In accordance with the Campus Security Act of 1990 (Jeanne Clery Act), information on the following subjects is available at the University Police office on the Anschutz Medical Campus. Most information may also be viewed at the University Police website www.UCD.edu/police.
• Campus crime statistics
• Procedures for reporting criminal activities or other emergencies occurring on campus
• Policy and procedure regarding sexual assault and the reporting thereof
• Victim assistance
• Access to campus facilities
• Security of campus facilities
• Law enforcement authority of the University Police and interagency relations
• Security awareness and crime prevention programs
• Daily Crime Log

We strongly encourage you to report all criminal activity, suspicious incidents or persons, and safety hazards to the University Police. With your help, we can make the campuses safer and more conducive to your learning experience.

VETERANS’ BENEFITS

A representative is available in the Financial Aid office to answer questions and to assist students in getting certified for veterans’ educational benefits. Student veterans will be certified once each academic year at the beginning of their first enrollment period. Students currently receiving benefits will be emailed an institutional application form that must be completed before their veterans’ forms can be certified. New students can go online to the Financial Aid Office’s website, www.uchsc.edu/finaid, and for application information.

Student veterans registered as official thesis students must obtain a statement signed by the department chairperson or thesis advisor to the effect that the student is engaged in either fulltime or part-time graduate study. This statement must be filed with the VA representative. Student veterans must immediately notify the VA representative of any changes in enrollment, e.g., school withdrawal, increase or decrease in numbers of credit hours in an academic period.

WITHDRAWAL FROM THE UNIVERSITY PROCEDURE

Students must begin the withdrawal process by visiting the Registrar’s office, Anschutz Medical Campus, Education II North Building, 3rd Floor, Student Services area, 303-724-8059 to obtain a withdrawal form. Students must obtain approval
from the appropriate academic dean or deans designate. The withdrawal form requires termination clearance signatures from the Bursar's office, Student Financial Aid office, Bookstore, Health Sciences Library, and the Traffic and Security office. This completed withdrawal form must be filed with the Registrar's office.

A withdrawal notation is recorded on the student's transcript.

Students who withdraw without communicating with the dean or dean's designate and filing the appropriate withdrawal form with the Registrar's office will be considered to have failed their courses for the term. Please see "Tuition and Fee Regulations" for withdrawal charges.
SCHOOL OF DENTAL MEDICINE
DENTAL HYGIENE
(*The Dental Hygiene curriculum is subject to change without notice.)

FIRST YEAR, Summer Semester

**DHYG 4400 Dental Hygiene Clinical Science Lecture 3**
2.0 cr.
Prereq: DHYG 3318.
Continuation of the Clinical Science Lecture 2 with emphasis on development of advanced clinical skills including ultrasonic instrumentation, four-handed dentistry, dental specialties and information for team-building.

**DHYG 4401 Dental Hygiene Patient Care Clinic 2**
2.0 cr.
Prereq: DHYG 3309.
Continuation of Patient Care Clinic 1. Patients with more advanced periodontal disease are treated.

**DHYG 4416 Pain Control**
2.0 cr.
The anatomy of the nerve supply to the teeth and the techniques for administration of local anesthesia and nitrous oxide analgesia. Students administer local anesthetic and nitrous oxide to their classmates as a means of practicing their skills.

SECOND YEAR, Fall Semester

**DHAD 4430 Oral Management of Patients with Systemic Disorder**
2.0 cr.
This course covers practice considerations for patients with physical, mental, or medical disabilities. Gerodontics is also emphasized.

**DHAD 4432 Community Health Programs and Issues**
2.5 cr.
A review of programs and skills needed by the dental hygienist to develop, implement and evaluate community health programs.

**DHRE 4400 Dental Materials Science**
2.0 cr.
Properties of dental materials commonly placed in the mouth and effects of manipulative variables on these materials.

**DHYG 4403 Dental Hygiene Patient Care Clinic 3**
3.0 cr.
Continuation of DHYG 3309 and 4401 with special emphasis on assessing, planning, implementing and evaluating care for patients with advanced periodontal disease.

**DHYG 4408 Dental Hygiene Clinical Science Lecture 4**
2.0 cr.
Continuation of DHYG 3308, 3318 and 4400 to round out the education experience and facilitate the transition to the work environment.

**DHYG 4411 Medical Emergencies**
1.0 cr.
Covers common medical emergencies and basic life support skills including CPR and the use of some emergency equipment. In addition to didactics, practical experiences will be included. Students will be recertified in CPR.

**DHYG 4417 Extramural Externship 1**
1.0 cr.
Direct experience in supervised practice at clinics and other settings in the community around Denver. Major focus is on the practice of dental hygiene outside of private practice.

SECOND YEAR, Spring Semester

**DHAD 4428 Practice Management for the Dental Team**
2.0 cr.
This course focuses on basic aspects of managing both dental practices and larger organizations. Topics covered include economic and financial aspects of dental practice, staff management, record systems, and team building.

**DHYG 4404 Dental Hygiene Patient Care Clinic 4**
4.0 cr.
Prereq: DHYG 4401.
Continuation of Patient Care Clinic coursework.

**DHYG 4409 Dental Hygiene Clinical Science Lecture 5**
1.0 cr.
Prereq: DHYG 4400.
A continuation of the clinical science lecture series. This final course is designed to round out the educational experience and facilitate the transition to the work environment.

University of Colorado Denver Health Sciences Programs 2008-2009
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DHYG 4412  Dental Health Education  2.0 cr.
This course encompasses philosophy, structure, and implementation of dental health education programs. Organizational skills focus on behavioral objectives, content outline, educational techniques, measurements, and educational media. Students apply their knowledge by implementing dental health education in planned field experiences.

DHYG 4413  Comprehensive Patient Care Clinic B  1.0 cr.
Prereq: DHYG 3313.
Continuation of Comprehensive Patient Care Clinic A.

DHYG 4414  Contemporary Issues in Dental Hygiene  1.0 cr.
A discussion of current issues including dental practice acts, ethics, jurisprudence and malpractice which are critical to the practice of dental hygiene.

DHYG 4423  Extramural Externship 2  1.0 cr.
Direct experience in supervised practice at clinics and other settings in the community around Denver. Major focus is on the practice of dental hygiene outside of private practice.

**DENTAL PROGRAM**

(*The Dental curriculum is subject to change without notice.*)

<table>
<thead>
<tr>
<th>FIRST YEAR, Fall Semester</th>
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DSAD 5522  Professional Decision Making in Dentistry  1.8 cr.
Decision making in four categories: development of professional; dental topics; measurement issues; applied decision making. Students are introduced to professionalism, dental history, dentistry as a career, description/disease measurement, dental problems, prevention, manpower/utilization issues, scientific thinking, and ethics/professionalism.

DSAD 5855  Independent Study  Variable cr.

DSBS 5500  Biochemistry and Human Nutrition  5.1 cr.
Deals with the chemical basis of biological organization and function. Emphasis is given to topics most directly relevant to oral health and disease.

DSBS 5504  Human Anatomy  8.9 cr.
Structure/organization of body through lecture/dissections with emphasis on head/neck that correlates with microstructure/development. Microanatomy examines microscopic structures/gross anatomy, correlating physiological/biochemical processes with information obtained by light/electron microscopy of the fine structure of tissues.

DSRE 5001  Introduction to Dentistry  3.5 cr.
To introduce the beginning dental students to the program with an overview of dental concepts and procedures.

DSRE 5500  Dental Morphology  0.6 cr.
Anatomical characteristics of the primary and permanent teeth in the human dentition, intra-arch relationships are considered in detail.

DSRE 5501  Dental Morphology Laboratory  0.6 cr.
Waxing full crowns of each tooth type to correct anatomical form, emphasizing intra-arch relationships.

DSRE 5504  Dental Materials Science 1  1.4 cr.
Basic information about materials science includes physical, chemical, mechanical, and biological properties. This information provides the background for the study of specific materials used in dentistry.

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<tr>
<th>FIRST YEAR, Spring Semester</th>
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DSAD 5866  Independent Study  Variable cr.

DSBS 5501  Introduction to Microbiology  1.0 cr.
This is an introductory course will review basic principles of general microbiology and present fundamentals of medical microbiology relevant to microorganisms of the oral cavity and sources of systemic infections with oral manifestations.

DSBS 5503  Microbiology  3.1 cr.
This course will review basic principles of general microbiology and present fundamentals of medical microbiology relevant to microorganisms of the oral cavity and sources of systemic infections with oral manifestations.

University of Colorado Denver Health Sciences Programs 2008-2009
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<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>DSBS 5505</td>
<td>Immunology</td>
<td>1.9 cr.</td>
</tr>
<tr>
<td>DSBS 5508</td>
<td>Physiology</td>
<td>3.8 cr.</td>
</tr>
<tr>
<td>DSBS 5514</td>
<td>General Pathology</td>
<td>3.1 cr.</td>
</tr>
<tr>
<td>DSDD 5500</td>
<td>Infection Control</td>
<td>0.5 cr.</td>
</tr>
<tr>
<td>DSOP 5504</td>
<td>Principles of Operative Dentistry Direct Restoration 1</td>
<td>1.2 cr.</td>
</tr>
<tr>
<td>DSOP 5505</td>
<td>Principles of Operative Dentistry Direct Restoration 1 Lab</td>
<td>1.2 cr.</td>
</tr>
<tr>
<td>DSRE 5500</td>
<td>Dental Morphology</td>
<td>0.2 cr.</td>
</tr>
<tr>
<td>DSRE 5501</td>
<td>Dental Morphology Laboratory</td>
<td>0.2 cr.</td>
</tr>
<tr>
<td>DSRE 5506</td>
<td>Occlusion 1</td>
<td>1.1 cr.</td>
</tr>
<tr>
<td>DSRE 5507</td>
<td>Occlusion 1 Laboratory</td>
<td>1.1 cr.</td>
</tr>
<tr>
<td>DSRE 5544</td>
<td>Cariology 1</td>
<td>0.7 cr.</td>
</tr>
</tbody>
</table>

**FIRST YEAR, Summer Semester**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>DSAD 5877</td>
<td>Independent Study</td>
<td>Variable cr.</td>
</tr>
<tr>
<td>DSBS 5516</td>
<td>Organ Pathology</td>
<td>3.1 cr.</td>
</tr>
<tr>
<td>DSOD 5500</td>
<td>Health Data Collection 1</td>
<td>0.5 cr.</td>
</tr>
<tr>
<td>DSOP 5506</td>
<td>Principles of Operative Dentistry Direct Restoration 2</td>
<td>0.6 cr.</td>
</tr>
<tr>
<td>DSOP 5507</td>
<td>Principles of Operative Dentistry Direct Restoration 2 Lab</td>
<td>0.4 cr.</td>
</tr>
</tbody>
</table>

*Basic Information about the immune system; how it functions in the maintenance of health and how it can cause tissue injury.*

*Deals with fundamentals of human physiology from basic cellular processes, such as membrane transport, to the organization and control of organ systems.*

*This course consists of lectures, laboratories, and discussions encompassing several basic biologic processes which interact to produce disease. These processes are considered at several levels of biologic organization ranging from clinical manifestations to molecular mechanisms.*

*This course reviews the fundamental principles of infection control including a focus on universal precautions, aseptic technique, methods of sterilization and regulatory issues.*

*This course is designed to teach students the principles of operative dentistry and the direct restoration of teeth from a problem specific approach.*

*This course integrates the principles of operative dentistry and direct restoration in a case-based laboratory environment.*

*Anatomical characteristics of the primary and permanent teeth in the human dentition, intra-arch relationships are considered in detail.*

*Waxing full crowns of each tooth type to correct anatomical form, emphasizing intra-arch relationships.*

*This introductory course in articulation and occlusion deals with the principles of mandibular movement and reproducing these movements on an articulator. The various types of occlusions are considered as well as different treatment theories pertaining to occlusal philosophies.*

*The laboratory course includes waxing opposing dentitions to proper occlusion, obtaining intra-oral records on patient, and mounting patient models on an articulator.*

*The course is intended to provide the basic science information about cariogenicity of plaque, caries etiology, nutrition, microbiological basis, patterns of progression and its relation to design for surgical treatment.*
DSRE 5508  Indirect Single Tooth Restoration 1  0.6 cr.
This course in restorative dentistry teaches the treatment of lesions and defects of single teeth using indirect restorative principles and techniques. Cast gold is the restorative material taught in this course.

SECOND YEAR, Fall Semester

DSAD 6855  Independent Study  Variable cr.

DSBS 6600  Pharmacology  5.1 cr.
Intensive study of drugs used in dental practice with emphasis on the basic principles of drug action. Lectures and clinical correlations are employed.

DSFD 6606  Indirect Single Tooth Restoration 3  0.8 cr.
Course teaches fundamental concepts, preparation, provisionalization, and restoration of single teeth with full gold crowns. Fundamental concepts, preparation and restoration of single teeth with cast gold onlays including two onlay designs, a maxillary onlay design, and a mandibular onlay design.

DSFD 6607  Indirect Single Tooth Restoration 3 Lab  0.8 cr.
Laboratory experience in cavity preparation, impression procedure, gold castings, and restoration of teeth with cast gold inlays and onlays.

DSON 6610  Oral Pathology 1  2.1 cr.
This course is a comprehensive review of the fundamental mechanisms and general principles of oral pathology, including developmental disturbances of oral and para-oral structures, benign and malignant tumors and cysts.

DSOT 6610  Orthodontics 1  2.1 cr.
Early physical and emotional development of the child is presented, emphasizing prenatal and neonatal influences on the craniofacial complex. The etiology and classification of malocclusion along with the development of disturbances of hard and soft tissues are introduced.

DSOT 6612  Orthodontics 2  0.5 cr.
Treatment planning for interceptive/corrective orthodontic procedures. Comprehensive diagnostic records taken. Lab techniques determine tooth size, arch length, mixed dentition and cephalometric analysis as well as the fabrication of fixed and removable appliances for interceptive and corrective orthodontic treatment are covered.

DSPE 6600  Periodontics 1  2.4 cr.
This course is designed to make the student familiar with the normal periodontium, as well as the epidemiology, etiology and pathogenesis of periodontal disease.

DSRE 6600 Transition Clinic 1.8 cr  1.8 cr.
This course will provide second year dental students with methods and techniques for diagnosis, treatment planning, and record keeping for general dental practice and will also serve as a platform to train students in the correct use of the Axium software.

DSRE 6606  Indirect Single Tooth Restoration 2  0.8 cr.
Course teaches fundamental concepts, preparation, provisionalization, and restoration of single teeth with full gold crowns. Fundamental concepts, preparation and restoration of single teeth with cast gold onlays. Two onlay designs, a maxillary onlay design and a mandibular onlay design taught.

DSRE 6607  Indirect Single Tooth Restoration 2 Laboratory  0.8 cr.
Course provides practical simulated clinical experience in preparation, provisionalization, and restoration of single teeth with full gold crowns. Two onlay designs, a maxillary onlay design, and a mandibular onlay design are practiced.

DSRP 6600  Removable Complete Prosthodontics  1.1 cr.
Students receive instruction about the art and science of the psychology of the elderly and the diagnosis and treatment of edentulous patients. Problems of treating geriatric patients are discussed.

DSRP 6601  Removable Complete Prosthodontics Lab  0.8 cr.
Making impressions and construction of master trays, in jaw relation records bases, mounting casts on the articulator, arrangement of artificial teeth, and final waxing. Students paired for diagnosis and treatment of an edentulous patient under close faculty supervision.
<table>
<thead>
<tr>
<th>Course Code</th>
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<th>Credits</th>
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<tbody>
<tr>
<td>DSAD 6604</td>
<td>Public Health and Community Dentistry</td>
<td>1.6 cr.</td>
</tr>
<tr>
<td>DSAD 6622</td>
<td>Managing Your Student Practice</td>
<td>1.6 cr.</td>
</tr>
<tr>
<td>DSAD 6866</td>
<td>Independent Study</td>
<td>Variable cr.</td>
</tr>
<tr>
<td>DSEN 6610</td>
<td>Endodontics 1 &amp; 2</td>
<td>0.8 cr.</td>
</tr>
<tr>
<td>DSEN 6611</td>
<td>Endodontics 1 &amp; 2 Lab</td>
<td>0.4 cr.</td>
</tr>
<tr>
<td>DSFD 6610</td>
<td>Fixed Prosthodontics</td>
<td>1.0 cr.</td>
</tr>
<tr>
<td>DSFD 6611</td>
<td>Fixed Prosthodontics Laboratory</td>
<td>1.0 cr.</td>
</tr>
<tr>
<td>DSOD 6602</td>
<td>Oral Radiology</td>
<td>2.3 cr.</td>
</tr>
<tr>
<td>DSOD 6603</td>
<td>Oral Radiology Laboratory</td>
<td>0.4 cr.</td>
</tr>
<tr>
<td>DSON 6612</td>
<td>Oral Pathology 2</td>
<td>2.3 cr.</td>
</tr>
<tr>
<td>DSPD 6620</td>
<td>Pediatric Dentistry 1</td>
<td>2.5 cr.</td>
</tr>
<tr>
<td>DSPE 6604</td>
<td>Periodontics 2</td>
<td>1.9 cr.</td>
</tr>
<tr>
<td>DSPE 6605</td>
<td>Periodontics 2 Laboratory</td>
<td>1.8 cr.</td>
</tr>
<tr>
<td>DSRE 6608</td>
<td>Dental Materials Science 2</td>
<td>1.6 cr.</td>
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<tr>
<td>DSRE 6612</td>
<td>Occlusion 2</td>
<td>0.2 cr.</td>
</tr>
<tr>
<td>DSRE 6613</td>
<td>Occlusion 2 Laboratory</td>
<td>0.2 cr.</td>
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</tbody>
</table>

**SECOND YEAR, Spring Semester**

- **DSAD 6604 Public Health and Community Dentistry**: This course exposes students to the public aspects of oral health care. It identifies the significance and scope of public health programs at all levels of government and relates the public activities to the private practice of dentistry.

- **DSAD 6622 Managing Your Student Practice**: Course provides students knowledge/skills to make the transition from pre-clinic to clinical patient. Competencies established in infection control, documentation/record keeping, patient management, medico-legal implications, ethical implication, professionalism, organization skills, communication skills, auxiliary utilization, and equipment/instrument utilization.

- **DSAD 6866 Independent Study**: Variable cr.

- **DSEN 6610 Endodontics 1 & 2**: Course is an introduction to basic endodontics therapy. The philosophy of endodontics treatment and therapeutic techniques is discussed. Mechanisms of inflammation and repair are related to decisions in clinical practice.

- **DSEN 6611 Endodontics 1 & 2 Lab**: This is a laboratory course in basic endodontics techniques utilizing extracted natural teeth as models of clinical treatment.

- **DSFD 6610 Fixed Prosthodontics**: Advanced pre-clinical lecture course. Ceramic restorations are included with discussion of pontic design and manipulation of gold solder. Dowel-core fabrication for endodontically treated teeth is covered. Clinical application is stressed and study of diagnosis and treatment planning is expanded.

- **DSFD 6611 Fixed Prosthodontics Laboratory**: Continuation of Fixed Prosthodontics with emphasis on ceramic restorations and the procedures involved in fabricating fixed bridges in the anterior of appearance zone. Restorations include direct pattern fabrication of dowel-cores to build up badly broken-down or fractured teeth.

- **DSOD 6602 Oral Radiology**: Designed to introduce the students to basic radiology and to provide them with the necessary practical skills in preparation for clinical dentistry.

- **DSOD 6603 Oral Radiology Laboratory**: The laboratory is designed to provide students with the necessary practical skills in preparation for clinical dentistry.

- **DSON 6612 Oral Pathology 2**: This course is a continuation of Oral Pathology 1.

- **DSPD 6620 Pediatric Dentistry 1**: Basic principles of clinical diagnosis and treatment of the child patient are introduced. Developmental aspects of the formation of the craniofacial complex are applied to clinical management of space maintenance, pulpal, restorative, and behavior management problems.

- **DSPE 6604 Periodontics 2**: This course deals with the prevention, treatment and control of periodontal disease. Currently accepted therapies are discussed in detail. In addition, the student is taught how to evaluate new therapies which periodically become available.

- **DSPE 6605 Periodontics 2 Laboratory**: This course runs parallel with Periodontics 2. It is devoted to teaching the clinical skills necessary for the practice of periodontics within the context of a general dental practice.

- **DSRE 6608 Dental Materials Science 2**: Course introduces materials used in the practice of dentistry. Their chemistry, physical properties, and biological interaction are discussed as well as their advantages, disadvantages, and methods of clinical use.

- **DSRE 6612 Occlusion 2**: Theory and indications treating mandibular instability with splints and equilibration. The etiology, diagnosis and treatment of occlusal trauma and mandibular dysfunction are introduced.

- **DSRE 6613 Occlusion 2 Laboratory**: The laboratory portion of this course includes fabrication of different splint types. It also introduces the principles of equilibration and applying these principles to models.
DSRE 6644  Cariology 2  0.7 cr.
The course provides didactic instruction and exercises in identifying caries, learning and evaluating detection methods. As well, the course will include identifying and correlating factors that contribute to caries, and developing programs for prevention and management to reduce identified factors.

DSRP 6602  Removable Partial Prosthodontics  0.4 cr.
Acquaints the student with principles of removable partial prosthodontics. Includes principles of partial denture design and fabrication as they relate to preventive dentistry.

DSRP 6603  Removable Partial Prosthodontics Laboratory  0.4 cr.
Laboratory exercises which follow lectures of principles of partial removable prosthodontics. The student should be familiar with all the necessary steps in completion of a mandibular removable partial denture.

DSSD 6600  Clinical Dental Pharmacology  0.4 cr.
Integration of basic drug mechanisms with fundamentals of clinical pharmacology and patient care.

DSSD 6604  Pain Control 1 (Local Anesthesia)  0.9 cr.
The anatomy of the nerve supply to the teeth and associated structures is covered. The techniques for administration of local anesthesia to the maxilla and mandible are demonstrated by the faculty and performed by the student.

DSSD 6608  Prevention and Management of Medical Emergencies  1.4 cr.
The prevention, diagnosis, and management of medical emergencies are presented.

SECOND YEAR, Summer Semester

DSAD 6877  Independent Study  Variable cr.

DSAD 7713  Community Assessment  0.3 cr.
Course exposes students to community and practice structures which they may be practicing during the ACTS Program and following graduation. Students collect descriptive information about community/practice setting. Students will research, observe, and conduct informal interviewing activities at personally selected sites.

DSEN 6610  Endodontics 1 and 2  1.3 cr.
The course covers biology of the dental pulp and factors irritating the pulp and proper preventive measures. Endodontic procedures, such as pulp capping, pulpotomy, and pulpectomy are discussed from a biologic viewpoint. Diagnosis of pulp diseases and the relationship of clinical finding to those conditions are presented. This course is also an introduction to basic endodontic therapy. The philosophy of endodontic treatment and therapeutic techniques is discussed. Mechanisms of inflammation and repair are related to decisions in clinical practice.

DSEN 6611 Endodontics 1 & 2 Lab  0.8 cr.
This is a laboratory course in basic endodontics techniques utilizing extracted natural teeth as models of clinical treatment.

DSFD 6655  Clinical Fixed Prosthodontics  Variable cr.
Clinical rotation in fixed prosthodontics.

DSOD 6655  Clinical Oral Diagnosis  Variable cr.
Clinical rotation in oral diagnosis.

DSOD 6657  Clinical Oral Radiology  0.6 cr.
The purpose of this course is to provide students with experience in exposing radiographs and by completing written interpretations of all radiographs. Evaluation will be on a pass/fail basis.

DSOP 6610  Operative Dentistry Seminar 2  0.6 cr.
This course will present topics on operative dentistry relative to clinic patient care. Current materials and techniques as well as a review of fundamental concepts of operative dentistry will be taught.

DSOP 6655  Clinical Operative Dentistry  Variable cr.
Clinical rotation in operative dentistry.

DSPD 6630  Pediatric Dentistry 2  1.0 cr.
Introductory courses in pediatric dentistry providing foundational knowledge for subsequent participation in pediatric dentistry clinical rotations. Laboratory and didactic components provide knowledge and skills for restorative treatment during the primary, transitional, and young permanent dentition phases.

DSPE 6655  Clinical Periodontics  Variable cr.
Clinical rotation in periodontics.
**DSRE 6612  Occlusion 2**  
Theory and indications treating mandibular instability with splints and equilibration. The etiology, diagnosis and treatment of occlusal trauma and mandibular dysfunction are introduced.  

**DSRE 6613  Occlusion 2 Laboratory**  
The laboratory portion of this course includes fabrication of different splint types. It also introduces the principles of equilibration and applying these principles to models.

**DSRE 6615  Comprehensive Patient Care Clinic A**  
An introductory clinic for dental students. Students will provide comprehensive dental care refining technical skills, learning patient management skills in a large group practice setting.

**DSRP 6602  Removable Partial Prosthodontics**  
0.6 cr.  
Acquaints the student with principles of removable partial Prosthodontics. Includes principles of partial denture design and fabrication as they relate to preventive dentistry.

**DSRP 6603  Removable Partial Prosthodontics Laboratory**  
0.5 cr.  
Laboratory exercises which follow lectures of principles of partial removable Prosthodontics. The student should be familiar with all the necessary steps in completion of a mandibular removable partial denture.

**DSRP 6655  Clinical Removable Prosthodontics**  
Clinical rotation in removable prosthodontics.  
Variable cr.

**DSSD 6610  Pain Control 2 (Nitrous Oxide Analgesia)**  
0.9 cr.  
Pharmacological indications and contraindications and prevention and treatment of complications relating to use of nitrous oxide is presented.

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**THIRD YEAR, Fall Semester**

**DSAD 7713  Community Assessment**  
0.7 cr.  
Course exposes students to community and practice structures which they may be practicing during the ACTS Program and following graduation. Students collect descriptive information about community/practice setting. Students will research, observe, and conduct informal interviewing activities at personally selected sites.

**DSAD 7720  Behavioral, Geriatric, and Special Dentistry**  
2.6 cr.  

**DSAD 7755  Independent Study**  
Variable cr.

**DSEN 7755  Clinical Endodontics**  
Clinical rotation in endodontics.  
Variable cr.

**DSFD 7755  Clinical Fixed Prosthodontics**  
Clinical rotation in fixed prosthodontics.  
Variable cr.

**DSFD 7761  Clinical Prosthodontics Seminar**  
0.6 cr.  
A single unit full crown procedure on a patient is performed by the student with specific time restraints and evaluation criteria. The purpose of this is to demonstrate clinical proficiency in this specific technique.

**DSOD 7716  Treatment Planning Conference 1**  
0.3 cr.  
Presentations of actual treatment cases from the comprehensive patient care program are made by students and critiqued by the faculty.

**DSOD 7755  Clinical Oral Diagnosis**  
Clinical rotation in oral diagnosis.  
Variable cr.

**DSOP 7755  Clinical Operative Dentistry**  
Clinical rotation in operative dentistry.  
Variable cr.

**DSOS 7710  Oral and Maxillofacial Surgery**  
3.0 cr.  
The diagnosis and treatment of oral and maxillofacial surgical problems including techniques for extraction of teeth alveoplasty, biopsy, management of infection, treatment of maxillary and mandibular fractures, and suturing techniques.

**DSPD 7700  Pediatric Dentistry 3**  
0.6 cr.  
Course emphasizes diagnostic and treatment considerations for pediatric patients, including lecture materials and case presentations to facilitate a good working knowledge of treatment planning/procedures covering sedation techniques as well as traumatic injuries, hospital dentistry and medically compromised patients.
DSPD 7755  Clinical Pediatric Dentistry  Variable cr.
Clinical rotation in pediatric dentistry.

DSPE 7710  Periodontics 3  0.8 cr.
Course is devoted to making the student familiar with the surgical management of periodontal disease. The indications and rationale for resection, reconstructive and mucogingival procedures are discussed.

DSPE 7711  Periodontics 3 Laboratory  0.1 cr.
The student is given the opportunity to practice a variety of clinical procedures. Pig mandibles are utilized for these laboratory exercises.

DSPE 7755  Clinical Periodontics  Variable cr.
Clinical rotation in periodontics.

DSRE 7704  Esthetic Dentistry  1.4 cr.
This course is designed to present information to students about those clinical dentistry procedures or concepts which are performed primarily to enhance dental esthetics.

DSRE 7712  Implant Dentistry  2.1 cr.
Concepts and applications of tissue integrated prostheses are presented and discussed. Topics include prosthetic techniques, diagnosis and treatment planning, analysis of current systems, qualifications and consent and clinical applications.

DSRE 7717  Comprehensive Patient Care Clinic B  0.6 cr.
Continuation of Comprehensive Patient Care Clinic A with additional emphasis on the treatment of pediatric, orthodontic, geriatric, and endodontics cases.

DSRE 7744  Cariology 3 – Section 1  0.5 cr.
Course provides students with a process to track patients at risk for caries, record actual caries experience, determine caries risk assessment, plan preventive care, document treatment (surgical and non-surgical) evaluate results achieved, and modify treatment as necessary.

DSRP 7755  Clinical Removable Prosthodontics  Variable cr.
Clinical rotation in removable prosthodontics.

DSSD 7710  Oro-Facial Pain  1.2 cr.
This course is designed to acquaint the student with the evaluation, diagnosis, management, and pathology of the temporomandibular joint. Emphasis is on the multidisciplinary nature of treating disorders of the TMJ.

DSSD 7712  Dental Pain and Emergencies  0.8 cr.
This course covers the diagnostic and treatment considerations for the management of the patient in pain and other emergency problems encountered in general dentistry. Independent study assigned by course director.

THIRD YEAR, Spring Semester

DSAD 7726  Dental Practice Planning  2.2 cr.
Teaches students to make basic decisions relating to planning/implementation of private practice. Primary focus on practice arrangements, business formats, dental associateships, buying a practice, designing and equipping dental office, financing practice, leases, debt management, personal/professional insurance, and selecting professional advisors.

DSAD 7866  Independent Study  Variable cr.

DSDD 7700  Medical Problems and Physical Assessment  0.7 cr.
Course provides clinical basis for assessment of patient’s medical history, status including systemic disease/physical findings. Directs student from normal interpretation/prevention to degrees of systemic pathophysiology that present acutely as medical emergencies, allowing for competent treatment.

DSDD 7702  Hospital Dentistry  0.6 cr.
This course provides an introduction to the hospital environment and the dental treatment of patients within that environment.

DSEN 7712  Endodontics 3  0.9 cr.
Course addresses topics of diagnosis and management of a variety of endodontic treatment problems such as periapical pathosis, traumatic injuries, surgical intervention, and bleeding.
DSEN 7757 Clinical Endodontics
Clinical rotation in endodontics.

DSFD 7757 Clinical Fixed Prosthodontics
Clinical rotation in fixed prosthodontics.

DSOD 7720 Treatment Planning Conference 2
Continuation of Treatment Planning Conference 1.

DSOD 7722 Treatment Planning Conference 3
Continuation of DSOD 7720.

DSOD 7724 Diagnostic Radiology
Variable cr.
Basic concepts and interpretative principles for panoramic radiography, TMJ radiography, sialography, xeroradiography, and extraoral views will be presented. Additionally, advanced imaging modalities that have been made available to assist in radiologic diagnoses in dentistry will be introduced.

DSOD 7757 Clinical Oral Diagnosis
Clinical rotation in oral diagnosis.

DSON 7755 Clinical Oncology
Variable cr.
One week course including lectures, seminars, tumor boards, surgery rounds, and radiation therapy conferences dealing with prevention, diagnosis, and treatment of head and neck neoplasia.

DSOP 7757 Clinical Operative Dentistry
Clinical rotation in operative dentistry.

DSOT 7720 Orthodontics 3
Variable cr.
Provides students additional knowledge for clinical assessment/management of patients with orthodontic problems. Utilizes acquired knowledge from previous orthodontic courses to synthesize a general and orthodontic diagnosis, and preventive, restorative, and orthodontic treatment plan.

DSOT 7757 Clinical Orthodontics
Clinical rotation in orthodontics.

DSPD 7757 Clinical Pediatric Dentistry
Clinical rotation in pediatric dentistry.

DSPE 7757 Clinical Periodontics
Clinical rotation in periodontics.

DSRE 7719 Comprehensive Patient Care Clinic C
Variable cr.
Comprehensive patient care activities with a focus on independence, student preparedness, technical skills, patient management and professionalism.

DSRE 7844 Cariology 3 – Section 2
Variable cr.
Provides students with a process to track patients at risk for caries, record actual caries experience, determine caries risk assessment, plan preventive care, document treatment (surgical and non-surgical), evaluate results achieved, and modify treatment as necessary.

DSRP 7757 Clinical Removable Prosthodontics
Clinical rotation in removable prosthodontics.

THIRD YEAR, Summer Semester

DSEN 7759 Clinical Endodontics
Clinical rotation in endodontics.

DSFD 7759 Clinical Fixed Prosthodontics
Clinical rotation in fixed prosthodontics.

DSOD 7759 Clinical Oral Diagnosis
Clinical rotation in oral diagnosis.

DSOP 7759 Clinical Operative Dentistry
Clinical rotation in operative dentistry.
DSPD 7759  Clinical Pediatric Dentistry  
Clinical rotation in pediatric dentistry.  

Variable cr.

DSPE 7759  Clinical Periodontics  
Clinical rotation in periodontics.  

Variable cr.

DSRE 7721  Comprehensive Patient Care Clinic D  
Continuation of Comprehensive Patient Care C with emphasis on effective practice management.  

0.6 cr.

DSRE 7944  Cariology 3 – Section 3  
This course provides students with a process to track patients at risk for caries, record actual caries experience, determine caries risk assessment, plan preventive care, document treatment (surgical and non-surgical), evaluate results achieved, and modify treatment as necessary.  

0.5 cr.

DSRP 7759  Clinical Removable Prosthodontics 1  
Clinical rotation in removable prosthodontics.  

Variable cr.

FOURTH YEAR, Fall Semester

DSAD 8895  Independent Study  
Variable cr.

DSEN 8855  Clinical Endodontics  
Clinical rotation in endodontics.  

Variable cr.

DSFD 8855  Clinical Fixed Prosthodontics  
Clinical rotation in fixed prosthodontics.  

Variable cr.

DSOD 8855  Clinical Oral Diagnosis  
Clinical rotation in oral diagnosis.  

Variable cr.

DSOP 8855  Clinical Operative Dentistry  
Clinical rotation in operative dentistry.  

Variable cr.

DSOS 8855  Clinical Oral and Maxillofacial Surgery  
This is a clinical oral surgery experience including routine and surgical removal of erupted and impacted teeth and use of intravenous sedation techniques.  

2.5 cr.

DSPE 8810  Periodontics 4  
This course emphasizes the interrelationships of periodontics and restorative dentistry and the management of advanced periodontal pathology is discussed.  

0.6 cr.

DSPE 8855  Clinical Periodontics  
Clinical rotation in periodontics.  

Variable cr.

DSRE 8810  Restorative Dentistry Advanced Clinical Training Service Seminar  
This seminar-type course is a broad discussion of advanced restorative techniques for complex prosthodontic rehabilitation or reconstruction cases. Specific topics such as aesthetics, TMJ considerations and materials application will be included.  

0.8 cr.

DSRE 8817  Comprehensive Patient Care Clinic E  
Advanced comprehensive patient care including applied principles of practice management.  

0.6 cr.

DSRE 8844  Cariology 4  

0.5 cr.

DSRP 8855  Clinical Removable Prosthodontics  
Clinical rotation in removable prosthodontics.  

Variable cr.

DSSD 8855  Clinical Emergencies  
The patient who presents with oral pain is evaluated and relief of discomfort is provided by the student under the supervision of the dental faculty.  

1.3 cr.

FOURTH YEAR, Spring Semester

DSAD 8812  Dental Ethics and Jurisprudence  
This course prepares students for appropriate conduct consistent with the legal and ethical principles of the dental profession. It lays the foundations for each student’s continued growth with respect to the legal and ethical obligations of professionalism.  

0.9 cr.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSAD 8822</td>
<td>Practice Management</td>
<td>1.8 cr.</td>
<td>Primary focus is on financial records, billing and collections, professional insurance, fees, clinical records, third party relations, case presentation, practice analysis, dental practice marketing, and personnel management.</td>
</tr>
<tr>
<td>DSAD 8866</td>
<td>Independent Study</td>
<td>Variable cr.</td>
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<tr>
<td>DSAD 8885</td>
<td>Applied Dentistry Independent Study</td>
<td>Variable cr.</td>
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</tr>
<tr>
<td>DSAD 8890</td>
<td>Integrated Care Clinical Dentistry</td>
<td>3.1 cr.</td>
<td>Students receive six weeks experience providing clinical care to geriatric, physically and mentally compromised patients with emphasis on clinical and behavioral skills necessary to treat special patients. Experience with portable dental equipment and exposure to other case settings is given.</td>
</tr>
<tr>
<td>DSAD 8891</td>
<td>Community-Based Clinical Dentistry 1</td>
<td>3.9 cr.</td>
<td>Students complete six weeks (may elect an additional eighteen weeks) in a non-metropolitan community-based educational site. Objectives of clinical experiences vary according to site assignment and include rural community health centers, psychiatric hospitals, migrant health care, or private practice locations.</td>
</tr>
<tr>
<td>DSAD 8892</td>
<td>Community-Based Clinical Dentistry 2</td>
<td>3.9 cr.</td>
<td>Students complete six weeks (may elect an additional eighteen weeks) in a non-metropolitan community-based educational site. Objectives of clinical experiences vary according to site assignment and include rural community health centers, psychiatric hospitals, migrant health care, or private practice locations.</td>
</tr>
<tr>
<td>DSAD 8893</td>
<td>Community-Based Clinical Dentistry 4</td>
<td>3.9 cr.</td>
<td>Students complete six weeks (may elect an additional eighteen weeks) in a non-metropolitan community-based educational site. Objectives of clinical experiences vary according to site assignment and include rural community health centers, psychiatric hospitals, migrant health care, or private practice locations.</td>
</tr>
<tr>
<td>DSEN 8810</td>
<td>Endodontics 4</td>
<td>0.3 cr.</td>
<td>This is an advanced course in endodontics clinical practice. Endodontic implants, autogenous transplants, advanced surgical concepts and controversies will be included.</td>
</tr>
<tr>
<td>DSOD 8820</td>
<td>Forensic Dentistry</td>
<td>0.4 cr.</td>
<td>Introductory concepts and techniques in forensic dentistry are presented and discussed.</td>
</tr>
<tr>
<td>DSRE 8810</td>
<td>Restorative Dentistry Advanced Clinical Training Service Seminar</td>
<td>0.8 cr.</td>
<td>This seminar-type course is a broad discussion of advanced restorative techniques for complex prosthodontic rehabilitation or reconstruction cases. Specific topics such as aesthetics, TMJ considerations and materials application will be included.</td>
</tr>
<tr>
<td>DSRE 8827</td>
<td>Comprehensive Patient Care Clinic F 11.0 cr.</td>
<td></td>
<td>Continuation of advanced comprehensive patient care activities for DS 4 dental students not registered for Integrated Care Clinic Dentistry.</td>
</tr>
<tr>
<td>DSAD 8855</td>
<td>Independent Study</td>
<td>Variable cr.</td>
<td></td>
</tr>
<tr>
<td>DSAD 8894</td>
<td>Community Based Clinical Dentistry 4</td>
<td>5.0 cr.</td>
<td>Students complete six weeks (may elect to take additional eighteen weeks) in a non-metropolitan, community-based educational site. Current sites include rural community health centers, special patient care hospitals, and migrant health care programs as well as several private practice locations.</td>
</tr>
<tr>
<td>DSRE 8837</td>
<td>Comprehensive Patient Care Clinic G</td>
<td>11.0 cr.</td>
<td>Continuation of advanced comprehensive patient care activities for DS 4 dental students not registered for Integrated Care Clinical Dentistry.</td>
</tr>
<tr>
<td>DSAD 8847</td>
<td>Comprehensive Patient Care Clinic H</td>
<td>11.0 cr.</td>
<td>Continuation of advanced comprehensive patient care activities for late DS IV dental students not registered for integrated Care Dentistry.</td>
</tr>
</tbody>
</table>
### DENTAL INTERNATIONAL STUDENT PROGRAM

(*The Dental curriculum is subject to change without notice.*)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>DISP 7100</td>
<td>Restorative Preclinical Simulation</td>
<td>1.9 cr.</td>
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<tr>
<td></td>
<td>This seminar-based course introduces the student to an overview of contemporary restorative procedures in a simulated clinical environment.</td>
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<tr>
<td>DISP 7101</td>
<td>Restorative Preclinical Simulation Lab</td>
<td>0.7 cr.</td>
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<tr>
<td></td>
<td>This laboratory-based course provides students with an overview of restorative techniques in a simulated clinical environment.</td>
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<tr>
<td>DISP 7102</td>
<td>Occlusion</td>
<td>1.1 cr.</td>
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<tr>
<td></td>
<td>Course covering principles of intra and inter-oral relationships. Course will also cover diagnosis and treatment regarding the occlusion relationship.</td>
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<tr>
<td>DISP 7103</td>
<td>Occlusion Lab</td>
<td>0.9 cr.</td>
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<tr>
<td></td>
<td>The laboratory portion of this course includes fabrication of different splint types. It also introduces principles of equilibration and applying these principles to models.</td>
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<tr>
<td>DISP 7105</td>
<td>Dental Materials</td>
<td>1.5 cr.</td>
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<td></td>
<td>This course will highlight contemporary dental materials and address their chemical composition and clinical application.</td>
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<tr>
<td>DISP 7106</td>
<td>Clinical Practice Ethics</td>
<td>0.6 cr.</td>
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<tr>
<td></td>
<td>Case-based ethics discussion.</td>
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<tr>
<td>DISP 7112</td>
<td>Cariology</td>
<td>0.9 cr.</td>
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<tr>
<td></td>
<td>Basic knowledge about dental caries and didactic instruction and exercises in identifying caries, learning and evaluating detection methods. Additionally, identifying and correlating factors that contribute to caries, and developing programs for prevention and management to reduce identified factors.</td>
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</tr>
<tr>
<td>DISP 7122</td>
<td>Periodontics 2</td>
<td>1.9 cr.</td>
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<tr>
<td></td>
<td>This course deals with the prevention, treatment and control of periodontal disease. Currently accepted therapies are discussed in detail. In addition, the student is taught how to evaluate new therapies which periodically become available.</td>
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<tr>
<td>DISP 7123</td>
<td>Periodontics 2 Lab</td>
<td>1.8 cr.</td>
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<tr>
<td></td>
<td>This course is devoted to teaching the clinical skills necessary for the practice of periodontics within the context of a general dental practice.</td>
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<tr>
<td>DISP 7124</td>
<td>Clinical Dental Pharmacology</td>
<td>0.4 cr.</td>
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<tr>
<td></td>
<td>Integration of basic drug mechanisms with fundamentals of clinical pharmacology and patient care.</td>
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<tr>
<td>DISP 7125</td>
<td>Pain Control 1 (Local Anesthesia)</td>
<td>0.9 cr.</td>
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<tr>
<td></td>
<td>The anatomy of the nerve supply to the teeth and associated structures is covered. The techniques for administration of local anesthesia to the maxilla and mandible are demonstrated by the faculty and performed by the student.</td>
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<tr>
<td>DISP 7126</td>
<td>Prevention and Management of Medical Emergencies</td>
<td>1.4 cr.</td>
</tr>
<tr>
<td></td>
<td>The prevention, diagnosis, and management of medical emergencies are presented.</td>
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<tr>
<td>DISP 7127</td>
<td>Medical Problems and Physical Assessment</td>
<td>0.7 cr.</td>
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<tr>
<td></td>
<td>This course provides competent clinical basis for assessment of patient’s medical history, current status including systemic disease/physical findings. Directs student from normal interpretation/prevention to systemic pathophysiology that presents as medical emergency, allowing for proper recognition/competent medical treatment.</td>
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<tr>
<td>DISP 7128</td>
<td>Hospital Dentistry</td>
<td>0.6 cr.</td>
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<tr>
<td></td>
<td>This course provides an introduction to the hospital environment and the dental treatment of patients within that environment.</td>
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<tr>
<td>DISP 7129</td>
<td>Infection Control</td>
<td>0.5 cr.</td>
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<tr>
<td></td>
<td>This course reviews the fundamental principles of infection control including a focus on universal precautions, aseptic technique, methods of sterilization and regulatory issues.</td>
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</tbody>
</table>
DISP 7130  Oral Radiology
Designed to introduce the students to basic radiology and to provide them with the necessary practical skills in preparation for clinical dentistry.

DISP 7131  Oral Radiology Lab
The laboratory is designed to provide students with the necessary practical skills in preparation for clinical dentistry.

DISP 7132  Diagnostic Radiology
Basic concepts and interpretative principles for panoramic radiography, TMJ radiography, sialography, xeroradiography, and extraoral views will be presented. Additionally, advanced imaging modalities that have been made available to assist in radiologic diagnoses in dentistry will be introduced.

DISP 7140  Pediatric Dentistry 1
Basic principles of clinical diagnosis and treatment of the child patient are introduced. Developmental aspects of the formation of the craniofacial complex are applied to clinical management of space maintenance, pupal, restorative, and behavior management problems.

DISP 7160  Managing Your Student Practice
Course provides student with knowledge/skills necessary to make the transition from pre-clinic to clinical patient. Competencies established in infection control, documentation, record keeping, patient management, medico-legal/ethical implications, professionalism, organization skills, communication skills, auxiliary utilization, and equipment/instrument utilization.

DISP 7161  Dental Practice Planning
Teaches students to make decisions in planning/implementation of private practice. Primary focus on alternative practice arrangements, business formats, dental associateships, buying practice, designing/equipping dental office, financing, personal/professional insurance, and selecting professional advisors.

DISP 7162  Public Health and Community Dentistry
This course exposes students to the public aspects of oral health care. It identifies the significance and scope of public health programs at all levels of government and relates the public activities to the private practice of dentistry.

FIRST YEAR, Summer Semester

DISP 7202  Case Presentation
Patient care with development of treatment plan through presentation by student to students and faculty.

DISP 7203  Fixed Prosthodontics
An advanced preclinical lecture course covering ceramic restorations along with discussion of pontic design and manipulation of gold solder. Dowel-core fabrication for endodontically treated teeth is covered. Clinical application is stressed and study of diagnosis and treatment planning is expanded.

DISP 7204  Fixed Prosthodontics Laboratory
Emphasis on ceramic restorations and procedures involved in fabricating fixed bridges in the anterior of appearance zone. Restorations include direct pattern fabrication of dowel-cores to building up badly broken-down or fractured teeth.

DISP 7205  Comprehensive Patient Care Clinic A
An introductory clinic for students providing comprehensive dental care refining technical skills, learning patient management skills in a large group practice setting.

DISP 7206  Clinical Restorative
Combines clinical experience with diagnosis, treatment planning, restorative treatment. Students assigned a fully dentated/partially/fully edentulous patient needing restorative procedures. Restorative materials include amalgam, cast gold, and tooth-colored composite resins/porcelain. Emphasis on fabrication of restorations that function adequately.

DISP 7210  Endodontics 2
Course is an introduction to basic endodontic therapy. The philosophy of endodontic treatment and therapeutic techniques is discussed. Mechanisms of inflammation and repair are related to decisions in clinical practice.

DISP 7211  Endodontics 2 Laboratory
This is a laboratory course in basic endodontic techniques utilizing extracted natural teeth as models of clinical treatment.

DISP 7212  Removable Partial Prosthodontics
Acquaints the student with principles of removable partial prosthodontics. Includes principles of partial denture design and fabrication as they relate to preventive dentistry.
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<tr>
<td>DISP 7213</td>
<td>Removable Partial Prosthodontics Laboratory</td>
<td>0.8 cr.</td>
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<tr>
<td></td>
<td>Laboratory exercises which follow lectures of principles of partial removable prosthodontics. The student should be familiar with all the necessary steps in completion of a mandibular removable partial denture.</td>
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<tr>
<td>DISP 7216</td>
<td>Operative Dentistry Seminar</td>
<td>0.6 cr.</td>
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<tr>
<td></td>
<td>This course will present topics on operative dentistry relative to clinic patient care. Current materials and techniques as well as a review of fundamental concepts of operative dentistry will be taught.</td>
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<tr>
<td>DISP 7220</td>
<td>Pain Control 2 (Nitrous Oxide Analgesia)</td>
<td>0.9 cr.</td>
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<tr>
<td></td>
<td>Pharmacological indications and contraindications and prevention and treatment of complications relating to use of nitrous oxide is presented.</td>
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<tr>
<td>DISP 7221</td>
<td>Clinical Periodontics</td>
<td>Variable cr.</td>
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<tr>
<td></td>
<td>Clinical rotation in periodontics</td>
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<tr>
<td>DISP 7230</td>
<td>Clinical Oral Radiology</td>
<td>0.8 cr.</td>
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<tr>
<td></td>
<td>To provide students with experience in exposing radiographs and by completing written interpretations of all radiographs.</td>
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<tr>
<td>DISP 7231</td>
<td>Health Data Collection 1</td>
<td>0.6 cr.</td>
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<tr>
<td></td>
<td>Designed to introduce the student to the problem-oriented dental record and to a systems approach to the collection of health data. Includes both lecture and clinical phases.</td>
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<tr>
<td>DISP 7232</td>
<td>Clinical Oral Diagnosis</td>
<td>Variable cr.</td>
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<tr>
<td></td>
<td>Clinical rotation in oral diagnosis.</td>
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<tr>
<td>DISP 7240</td>
<td>Pediatric Dentistry 2</td>
<td>1.0 cr.</td>
</tr>
<tr>
<td></td>
<td>Basic principles of clinical diagnosis and treatment of the child patient are introduced.</td>
<td></td>
</tr>
</tbody>
</table>

**FIRST YEAR, Fall Semester**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>DISP 7300</td>
<td>Case Presentation 2</td>
<td>1.7 cr.</td>
</tr>
<tr>
<td></td>
<td>Presentations of actual treatment cases from the comprehensive patient care program are made by students and critiqued by the faculty.</td>
<td></td>
</tr>
<tr>
<td>DISP 7301</td>
<td>Comprehensive Patient Care Clinic B</td>
<td>Variable cr.</td>
</tr>
<tr>
<td></td>
<td>Continuation of Comprehensive Patient Care Clinic A with additional emphasis on the treatment of pediatric, orthodontic, geriatric, and endodontics cases.</td>
<td></td>
</tr>
<tr>
<td>DISP 7302</td>
<td>Clinical Restorative</td>
<td>Variable cr.</td>
</tr>
<tr>
<td></td>
<td>Combines clinical experience with diagnosis, treatment planning, restorative treatment. Students assigned a fully dentated/partially/fully edentulous patient needing restorative procedures. Restorative materials include amalgam, cast gold, and tooth-colored composite resins/porcelain. Emphasis on fabrication of restorations that function adequately.</td>
<td></td>
</tr>
<tr>
<td>DISP 7310</td>
<td>Implant Dentistry</td>
<td>1.0 cr.</td>
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<tr>
<td></td>
<td>Concepts and applications of tissue integrated prostheses are presented and discussed. Topics include an historical perspective of implant dentistry, surgical and prosthetic techniques, diagnosis and treatment planning analysis of current systems, qualifications and consent, and clinical applications.</td>
<td></td>
</tr>
<tr>
<td>DISP 7311</td>
<td>Implant Dentistry Laboratory</td>
<td>1.0 cr.</td>
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<tr>
<td></td>
<td>Concepts and applications of tissue integrated prostheses are presented and discussed. Topics include prosthetic techniques, diagnosis and treatment planning, analysis of current systems, qualifications and consent, and clinical applications.</td>
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</tr>
<tr>
<td>DISP 7312</td>
<td>Removable Complete Prosthodontics</td>
<td>1.1 cr.</td>
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<tr>
<td></td>
<td>Students receive instruction about the art and science of the psychology of the elderly and the diagnosis and treatment of edentulous patients. Problems of treating geriatric patients are discussed.</td>
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</tr>
<tr>
<td>DISP 7313</td>
<td>Removable Complete Prosthodontics Laboratory</td>
<td>0.8 cr.</td>
</tr>
<tr>
<td></td>
<td>Students are instructed in making impressions/construction of master impression trays, jaw relation records bases, mounting casts on the articulator, arrangement of artificial teeth, and final waxing. Student paired is with edentulous patient for diagnosis/treatment under faculty supervision.</td>
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<tr>
<td>DISP 7314</td>
<td>Esthetic Dentistry</td>
<td>1.4 cr.</td>
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<tr>
<td></td>
<td>This course is designed to present information to students about those clinical dentistry procedures or concepts which are performed primarily to enhance dental esthetics</td>
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</tr>
<tr>
<td>DISP 7315</td>
<td>Cariology II</td>
<td>0.5 cr.</td>
</tr>
</tbody>
</table>
DISP 7320  Oral and Maxillofacial Surgery 3.0 cr.
The diagnosis and treatment of oral and maxillofacial surgical problems including techniques for extraction of teeth alveoplasty, biopsy, management of infection, treatment of maxillary and mandibular fractures, and suturing techniques.

DISP 7321  Periodontics 3 0.8 cr.
This course is devoted to making the student familiar with the surgical management of periodontal disease. The indications and rationale for resection, reconstructive and mucogingival procedures are discussed.

DISP 7322  Oral Facial Pain 1.2 cr.
This course is designed to acquaint the student with the evaluation, diagnosis, management, and pathology of the temporomandibular joint. Emphasis is on the multidisciplinary nature of treating disorders of TMJ.

DISP 7323  Dental Pain and Emergencies 0.8 cr.
This course covers the diagnostic and treatment considerations for the management of the patient in pain and other emergency problems encountered in general dentistry.

DISP 7326  Treatment Planning Conference 1 0.9 cr.
Presentations of actual treatment cases from the comprehensive patient care program are made by students and critiqued by the faculty.

DISP 7327  Periodontics 3 Laboratory 0.1 cr.
The student is given the opportunity to practice a variety of clinical procedures. Pig mandibles are utilized for these laboratory exercises.

DISP 7328  Clinical Periodontics Variable cr.
Clinical rotation in periodontics.

DISP 7329  Clinical Endodontics Variable cr.
Clinical rotation in endodontics.

DISP 7330  Oral Pathology 1 2.1 cr.
This course is a comprehensive review of the fundamental mechanisms and general principles of oral pathology, including developmental disturbances of oral and para-oral structures, benign and malignant tumors and cysts.

DISP 7331  Clinical Oral Diagnosis Variable cr.
Clinical rotation in oral diagnosis.

DISP 7340  Pediatric Dentistry 3 0.6 cr.
Course emphasizes diagnostic/treatment considerations for pediatric patients. Lecture materials by faculty/case presentations utilized to facilitate working knowledge of treatment planning/procedures. Sedation techniques for behavior problems discussed as well as traumatic injuries, hospital dentistry and medically compromised patients.

DISP 7360  Behavioral, Geriatric, and Special Dentistry 2.6 cr.
Course teaches clinical/behavioral skills for successful dental practice including: behavioral patient management (managing fearful/anxious patients, communication skills), geriatric dental issues (psychosocial assessment, treatment planning, and clinical interventions), and special care dentistry (medical problems, disabilities, and health issues).

SECOND YEAR, Spring Semester

DISP 8100  Case Presentation 4 2.0 cr.
Patient care with development of treatment plan through presentation by student to students and faculty.

DISP 8101  Comprehensive Patient Care Clinic C Variable cr.
Continuation of Comprehensive Patient Care Clinic B with activities focusing on independence, student preparedness, technical skills, patient management and professionalism.

DISP 8102  Communication and Behavior Change 1.0 cr.

DISP 8103  Clinical Restorative Variable cr.
Combines clinical experience with diagnosis, treatment planning, restorative treatment. Students assigned a fully dentated/partially/fully edentulous patient needing restorative procedures. Restorative materials include amalgam, cast gold, and tooth-colored composite resins/porcelain. Emphasis on fabrication of restorations that function adequately.
DISP 8110  Restorative Dentistry Advanced Clinical Training Service Seminar  1.6 cr.
This seminar-type course is a broad discussion of advanced restorative techniques for complex prosthodontic rehabilitation or reconstruction cases. Specific topics such as anesthetics, TNJ considerations and materials application will be included.

DISP 8120  Endodontics 3  0.9 cr.
This course addresses topics of diagnosis and management of a variety of endodontic treatment problems such as periapical pathosis, traumatic injuries, surgical intervention, and bleeding.

DISP 8121  Endodontics 4  0.3 cr.
This is an advanced course in endodontics clinical practice. Endodontic implants, autogenous transplants, advanced surgical concepts and controversies will be included.

DISP 8123  Clinical Endodontics  
Clinical rotation in endodontics.  
Variable cr.

DISP 8124  Clinical Periodontics  
Clinical rotation in periodontics.  
Variable cr.

DISP 8125  Clinical Oral Maxillofacial Surgery  2.5 cr.
This is a clinical oral surgery experience including routine and surgical removal of erupted and impacted teeth and use of intravenous sedation techniques.

DISP 8126  Treatment Planning Conference 2  0.9 cr.
Presentations of actual treatment cases from the comprehensive patient care program are made by students and critiqued by the faculty.

DISP 8130  Clinical Oncology  0.3 cr.
An assignment of one week for students includes lectures, seminars, tumor boards, surgery rounds, and radiation therapy conferences on a health professional approach to the prevention, diagnosis, and treatment of head and neck neoplasia.

DISP 8131  Oral Pathology 2  2.3 cr.
This course is a continuation of DISP 7330.

DISP 8132  Forensic Dentistry  0.4 cr.
Introductory concepts and techniques in forensic dentistry are presented and discussed.

DISP 8133  Clinical Oral Diagnosis  
Clinical rotation in oral diagnosis.  
Variable cr.

DISP 8160  Dental Ethics and Jurisprudence  0.9 cr.
This course prepares students for appropriate conduct consistent with the legal and ethical principles of the dental profession. It lays the foundations for each student’s continued growth with respect to the legal and ethical obligations of professionalism.

DISP 8161  Practice Management  1.8 cr.
Understanding of basic management activities which must be continuously carried out in private practice. Primary focus on financial records, billing and collections, professional insurance, fees, clinical records, third party relations, case presentation, practice analysis, dental practice marketing, and personnel management.

SECOND YEAR, Summer Semester

DISP 8200  Case Presentation 5  1.4 cr.
Patient care with development of treatment plan through presentation by student to students and faculty.

DISP 8201  Comprehensive Patient Care Clinic D  
Continued provision of Comprehensive Patient Care Clinic C with emphasis on effective practice management.  
Variable cr.

DISP 8202  Clinical Restorative  
Combines clinical experience with diagnosis, treatment planning, restorative treatment. Students assigned a fully dentated/partially/fully edentulous patient needing restorative procedures. Restorative materials include amalgam, cast gold, and tooth-colored composite resins/porcelain. Emphasis on fabrication of restorations that function adequately.  
Variable cr.

DISP 8203  Special Care Clinic  0.2 cr.

DISP 8220  Clinical Endodontics  
Clinical rotation in endodontics.  
Variable cr.
### DISP 8222 Clinical Periodontics
Clinical rotation in periodontics.

### DISP 8223 Clinical Oral Maxillofacial Surgery
Clinical rotation in oral maxillofacial surgery.

### DISP 8230 Treatment Planning Conference 3
Patient care with development of treatment plan through presentation by student to students and faculty.

### DISP 8231 Clinical Oral Diagnosis
Clinical rotation in oral diagnosis.

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#### SECOND YEAR, Fall Semester

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>DISP 8300</td>
<td>Case Presentation 6</td>
<td>1.3 cr.</td>
</tr>
<tr>
<td>DISP 8310</td>
<td>Clinical Prosthodontics Seminar</td>
<td>0.6 cr.</td>
</tr>
<tr>
<td>DISP 8302</td>
<td>Comprehensive Patient Care Clinic E</td>
<td>Variable cr.</td>
</tr>
<tr>
<td>DISP 8311</td>
<td>Cariology III</td>
<td>Variable cr.</td>
</tr>
<tr>
<td>DISP 8321</td>
<td>Clinical Endodontics</td>
<td>Variable cr.</td>
</tr>
<tr>
<td>DISP 8322</td>
<td>Periodontics 4</td>
<td>0.6 cr.</td>
</tr>
<tr>
<td>DISP 8323</td>
<td>Clinical Periodontics</td>
<td>Variable cr.</td>
</tr>
<tr>
<td>DISP 8330</td>
<td>Clinical Oral Diagnosis</td>
<td>Variable cr.</td>
</tr>
<tr>
<td>DISP 8350</td>
<td>Orthodontics</td>
<td>4.5 cr.</td>
</tr>
</tbody>
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### POSTGRADUATE PERIODONTICS CERTIFICATE PROGRAM
(*The Periodontics Certificate curriculum is subject to change without notice.*)

#### First Year, Summer Semester

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>DPER 7100</td>
<td>Periodontics Specialty Clinic 1</td>
<td>1.3 cr.</td>
</tr>
<tr>
<td>DPER 7110</td>
<td>Advanced Oral and Maxillofacial Radiology</td>
<td>1.0 cr.</td>
</tr>
<tr>
<td>DPER 7111</td>
<td>Advanced Periodontal Concepts</td>
<td>2.0 cr.</td>
</tr>
</tbody>
</table>

*University of Colorado Denver Health Sciences Programs 2008-2009*
DPER 7112  Postgraduate Dental Implantology Seminar 1A  1.0 cr.
In this initial lecture and seminar course, relevant readings in the dental literature relating to specific topics in dental implantology are assigned and critically discussed. A variety of cases are treatment planned by the residents. (Part 1 of three-semester course)

DPER 7113  Oral Medicine and Clinical Diagnosis  1.0 cr.
In this postgraduate course, students review a variety of oral diseases and accepted methods of treatment of those as well as systemic diseases manifested in the oral cavity.

**First Year, Fall Semester**

DPER 7200  Periodontics Specialty Clinic 2  4.0 cr.
Prereq:  DPER 7100
In this postgraduate course, students receive experiences with all accepted methods of periodontal treatment, dental implantology, and periodontal plastic procedures.

DPER 7201  Periodontal Journal Club 1A  0.5 cr.
This postgraduate course encompasses a review of the latest dental and medical journals for the most recent information related to the art, science, and practice of periodontics. Students prepare abstracts to be discussed at scheduled seminars. (Part 1 of two-semester course)

DPER 7202  Periodontics Treatment Planning 1A  1.0 cr.
In this postgraduate seminar course, Periodontics and GPR residents present a documentation database, diagnosis and treatment plans for patients treated communally in these two clinics. (Part 1 of two-semester course)

DPER 7203  Periodontal Literature Review Seminar 1A  4.0 cr.
In this postgraduate seminar course, relevant readings in the periodontal literature relating to specific topics are assigned and critically discussed.

DPER 7204  Periodontics Case Presentations Seminar 1A  2.0 cr.
In this postgraduate course, residents prepare and present a complete documentation database, diagnosis/prognosis, treatment plan, treatment procedures, and evaluation of treatment results in formal case presentations simulating the oral examination for the American Board of Periodontology. (Part 1 of two-semester course)

DPER 7210  Advanced Periodontal Biology  2.0 cr.
This postgraduate course develops a fundamental understanding of the microscopic anatomy, cell biology and physiology of the periodontal tissues in health, during disease progression, and following periodontal therapy.

DPER 7211  Pain Control & Sedation/Comprehensive Pain Management 1  1.0 cr.
This is a postgraduate course in pain control and sedation and patient evaluation to determine appropriate modalities of pain and anxiety control. (Part 1 of two-semester course)

DPER 7212  Postgraduate Dental Implantology Seminar 1B  1.0 cr.
Prereq:  DPER 7112
In this initial lecture and seminar course, relevant readings in the dental literature relating to specific topics in dental implantology are assigned and critically discussed. A variety of cases are treatment planned by the residents. (Part 2 of three-semester course)

DPER 7220  Research and Methodology and Biostatistics 1  2.0 cr.
This postgraduate course is an in-depth study of scientific research methods, study design and organization, data gathering, and the biostatistical tools required to analyze the results of a study.

**First Year, Spring Semester**

DPER 7300  Periodontics Specialty Clinic 3  6.0 cr.
Prereq:  DPER 7100, DPER 7200
In this postgraduate course, students receive experiences with all accepted methods of periodontal treatment, dental implantology, and periodontal plastic procedures.

DPER 7301  Periodontal Journal Club 1B  0.8 cr.
Prereq:  DPER 7201
This postgraduate course encompasses a review of the latest dental and medical journals for the most recent information related to the art, science, and practice of periodontics. Students prepare abstracts to be discussed at scheduled seminars. (Part 2 of two-semester course)

DPER 7302  Periodontics Treatment Planning 1B  1.5 cr.
Prereq:  DPER 7202
In this postgraduate seminar course, Periodontics and GPR residents present a documentation database, diagnosis and treatment plans for patients treated communally in these two clinics. (Part 2 of two-semester course)
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>DPER 7303</td>
<td>Periodontal Literature Review Seminar 2</td>
<td>6.0 cr.</td>
</tr>
<tr>
<td></td>
<td>Prereq: DPER 7203</td>
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<tr>
<td></td>
<td>In this postdoctoral seminar course, relevant readings in the periodontal literature relating to specific topics are assigned and critically discussed.</td>
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<tr>
<td>DPER 7304</td>
<td>Periodontal Case Presentations Seminar 1B</td>
<td>3.0 cr.</td>
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<tr>
<td></td>
<td>Prereq: DPER 7204</td>
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<tr>
<td></td>
<td>In this postdoctoral course, residents prepare and present a complete data base, diagnosis/prognosis, treatment plan, treatment procedures, and evaluation of treatment results in formal case presentations simulating the oral examination for the American Board of Periodontology. <em>(Part 2 of two-semester course)</em></td>
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<tr>
<td>DPER 7305</td>
<td>Periodontal Research 1</td>
<td>3.0 cr.</td>
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<tr>
<td></td>
<td>Course requires student to select a research topic, define a research question, do a literature search on the topic, organize a research project, carry out the project, collect and analyze the results, and write a publishable manuscript on the project.</td>
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<tr>
<td>DPER 7311</td>
<td>Pain Control &amp; Sedation/Comprehensive Pain Management 2</td>
<td>3.0 cr.</td>
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<tr>
<td></td>
<td>Prereq: DPER 7211</td>
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<tr>
<td></td>
<td>This is a postgraduate course in pain control and sedation, and evaluation of patients to determine appropriate modalities of pain and anxiety control. <em>(Part 2 of two-semester course)</em></td>
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</tr>
<tr>
<td>DPER 7312</td>
<td>Postgraduate Dental Implantology Seminar 1C</td>
<td>1.5 cr.</td>
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<tr>
<td></td>
<td>Prereq: DPER 7112, DPER 7212</td>
<td></td>
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<tr>
<td></td>
<td>In this initial lecture and seminar course, relevant readings in the dental literature relating to specific topics in dental implantology are assigned and critically discussed. A variety of cases are treatment planned by the residents. <em>(Part 3 of three-semester course)</em></td>
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</tr>
<tr>
<td>DPER 7313</td>
<td>Occlusion and TMJ Dysfunction 1</td>
<td>1.5 cr.</td>
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<tr>
<td></td>
<td>In this postdoctoral course, the literature on the subject of occlusion is reviewed and discussed as it relates to the etiology and treatment of TMJ problems.</td>
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<tr>
<td>DPER 7320</td>
<td>Research Methodology and Biostatistics 2</td>
<td>3.0 cr.</td>
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<tr>
<td></td>
<td>Prereq: DPER 7220</td>
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<tr>
<td></td>
<td>This postdoctoral course is an in-depth study of scientific research methods, study design and organization, data gathering, and the biostatistical tools required to analyze the results of the study.</td>
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**Second Year, Summer Semester**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>DPER 8100</td>
<td>Periodontics Specialty Clinic 4</td>
<td>2.7 cr.</td>
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<td></td>
<td>Prereq: DPER 7100, DPER 7200, DPER 7300</td>
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<tr>
<td></td>
<td>In this postdoctoral course, students receive experiences with all accepted methods of periodontal treatment, dental implantology, and periodontal plastic procedures.</td>
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<tr>
<td>DPER 8105</td>
<td>Periodontal Research 2</td>
<td>1.0 cr.</td>
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<tr>
<td></td>
<td>Prereq: DPER 7305</td>
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<tr>
<td></td>
<td>Course requires student to select a research topic, define a research question, do a literature search on the topic, organize a research project, collect and analyze the results, and write a publishable manuscript on the project.</td>
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<tr>
<td>DPER 8106</td>
<td>Anesthesiology</td>
<td>1.3 cr.</td>
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<tr>
<td></td>
<td>This is a hospital based seminar and clinical course to familiarize the resident in patient evaluation, pharmacology, airway management, IV techniques, and general anesthesia procedures.</td>
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<tr>
<td>DPER 8113</td>
<td>TMJ Clinic 1A (rotation)</td>
<td>0.7 cr.</td>
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<td></td>
<td>Prereq: DPER 7313</td>
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<tr>
<td></td>
<td>TMJ disorders are reviewed and treatment provided using a variety of pharmacologic, mechanical, and biofeedback methods in these clinic sessions.</td>
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<tr>
<td>DPER 8107</td>
<td>Otolaryngology</td>
<td>1.3 cr.</td>
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<tr>
<td></td>
<td>This is a hospital based seminar and clinical course to familiarize the resident in patient evaluation, head and neck anatomy, and surgical procedures in the cranio-facial region.</td>
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<tr>
<td>DPER 8120</td>
<td>Head and Neck Anatomy</td>
<td>1.0 cr.</td>
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<tr>
<td></td>
<td>This postdoctoral course is an advanced study of head and neck anatomy as it relates to periodontal patient care.</td>
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</tbody>
</table>
Second Year, Autumn Semester

**DPER 8200  Periodontics Specialty Clinic 5**  3.0 cr.
Prereq: DPER 7100, DPER 7200, DPER 7300, DPER 8100
In this postdoctoral course, students receive experiences with all accepted methods of periodontal treatment, dental implantology, and periodontal plastic procedures.

**DPER 8201  Periodontal Journal Club 2A**  0.5 cr.
Prereq: DPER 7201, DPER 7301
This postdoctoral course encompasses a review of the latest dental and medical journals for the most recent information related to the art, science, and practice of periodontics. Students prepare abstracts to be discussed at scheduled seminars. **(Part 1 of two-semester course)**

**DPER 8202  Periodontics Treatment Planning 2A**  1.0 cr.
Prereq: DPER 7202, DPER 7302
In this postdoctoral seminar course, Periodontics and GPR residents present a documentation database, diagnosis and treatment plans for patients treated communally in these two clinics. **(Part 1 of two-semester course)**

**DPER 8203  Periodontal Literature Review Seminar 3**  4.0 cr.
Prereq: DPER 7203, DPER 7303
In this postdoctoral seminar course, relevant readings in the periodontal literature relating to specific topics are assigned and critically discussed.

**DPER 8204  Periodontal Case Presentations Seminar 2A**  2.0 cr.
Prereq: DPER 7204, DPER 7304
In this postdoctoral course, residents prepare and present a complete documentation database, diagnosis/prognosis, treatment plan, treatment procedures, and evaluation of treatment results in formal case presentations simulating the oral examination for the American Board of Periodontology. **(Part 1 of two-semester course)**

**DPER 8205  Periodontal Research 3**  2.0 cr.
Prereq: DPER 7305, DPER 8105
Course requires student to select a research topic, define a research question, do a literature search on the topic, organize a research project, carry out the project, collect and analyze the results, and write a publishable manuscript on the project.

**DPER 8206  Periodontics Clinical Teaching 1A**  4.0 cr.
Postdoctoral periodontics students gain experience in instructing dental and hygiene students after receiving instruction in the basics of didactic and clinical teaching. **(Part 1 of two-semester course)**

**DPER 8207  Minor Tooth Movement 1A**  1.3 cr.
This didactic and clinical course will familiarize the resident with orthodontic procedures that can be utilized in comprehensive periodontal treatment. Clinical cases will be treated in conjunction with orthodontic residents and faculty. **(Part 1 of two-semester course)**

**DPER 8212  Postgraduate Dental Implantology Seminar 2A**  1.0 cr.
Prereq: DPER 7112, DPER 7212, DPER 7312
In this initial lecture and seminar course, relevant readings in the dental literature relating to specific topics in dental implantology are assigned and critically discussed. A variety of cases are treatment planned by the residents. **(Part 1 of two-semester course)**

**DPER 8213  TMJ Clinic 1B (rotation)**  1.0 cr.
Prereq: DPER 7313, DPER 8113
TMJ disorders are reviewed and treatment provided in these clinic sessions.

**DPER 8221  Implants in the Orthodontic Patient**  1.0 cr.
This postdoctoral course is an in-depth study of the use of implants in patients both for restorative dentistry and as an orthodontic anchorage.

**DPER 8222  Periodontic/Orthodontic Treatment**  1.0 cr.
This postdoctoral course is a study of the interdisciplinary care of the patient with periodontal and orthodontic needs and includes a review of the literature in conjunction with a periodontist and orthodontist.

Second Year, Spring Semester
DPER 8300  Periodontics Specialty Clinic 6  8.0 cr.
Prereq: DPER 7100, DPER 7200, DPER 7300, DPER 8100, DPER 8200
In this postdoctoral course, students receive experiences with all accepted methods of periodontal treatment, dental implantology, and periodontal plastic procedures.

DPER 8301  Periodontal Journal Club 2B  0.8 cr.
Prereq: DPER 7201, DPER 7301, DPER 8201
This postdoctoral course encompasses a review of the latest dental and medical journals for the most recent information related to the art, science, and practice of periodontics. Students prepare abstracts to be discussed at scheduled seminars. (Part 2 of two-semester course)

DPER 8302  Periodontics Treatment Planning 2B  1.5 cr.
Prereq: DPER 7202, DPER 7302, DPER 8202
In this postdoctoral seminar course, Periodontics and GPR residents present a documentation database, diagnosis and treatment plans for patients treated communally in these two clinics. (Part 4 of two-semester course)

DPER 8303  Periodontal Literature Review Seminar 4  6.0 cr.
Prereq: DPER 7203, DPER 7303, DPER 8203
In this postdoctoral seminar course, relevant readings in the periodontal literature relating to specific topics are assigned and critically discussed.

DPER 8304  Periodontal Case Presentations Seminar 2B  3.0 cr.
Prereq: DPER 7204, DPER 7304, DPER 8204
In this postdoctoral course, residents prepare and present a complete documentation database, diagnosis/prognosis, treatment plan, treatment procedures, and evaluation of treatment results in formal case presentations simulating the oral examination for the American Board of Periodontology. (Part 2 of two-semester course)

DPER 8305  Periodontal Research 4  3.0 cr.
Prereq: DPER 7305, DPER 8105, DPER 8205
Course requires student to select a research topic, define a research question, do a literature search on the topic, organize a research project, carry out the project, collect and analyze the results, and write a publishable manuscript on the project.

DPER 8306  Periodontics Clinical Teaching 1B  6.0 cr.
Prereq: DPER 8206
Postdoctoral periodontics students gain experience in instructing dental and hygiene students after receiving instruction in the basics of didactic and clinical teaching. (Part 2 of two-semester course)

DPER 8307  Minor Tooth Movement 1B  1.5 cr.
Prereq: DPER 8207
This didactic and clinical course will familiarize the resident with orthodontic procedures that can be utilized in comprehensive periodontal treatment. Clinical cases will be treated in conjunction with orthodontic residents and faculty. (Part 2 of two-semester course)

DPER 8308  Practice Management  1.5 cr.
This seminar series is designed to provide residents with an overview of the primary private practice options that they may pursue following residency training and how to evaluate various practice opportunities.

DPER 8311  Advanced Immunology/Microbiology  1.5 cr.
This postdoctoral course will review and update knowledge in the areas of microbiology and immunology relevant to homeostasis and pathology in the oral cavity.

DPER 8312  Postgraduate Dental Implantology Seminar 2B  1.5 cr.
Prereq: DPER 7112, DPER 7212, DPER 7312, DPER 8212
In this lecture and seminar course, relevant readings in the dental literature relating to specific topics in dental implantology are assigned and critically discussed. A variety of cases are treatment planned by the residents. (Part 2 of two-semester course)

DPER 8314  Advanced Topics in Pharmacology  1.5 cr.
This is an advanced course in Pharmacology that will provide residents with a review and update of pharmacology and an understanding of applied pharmacology and patient care.

Third Year, Summer Semester

DPER 9100  Periodontics Specialty Clinic 7  4.0 cr.
Prereq: DPER7100, DPER 7200, DPER 7300, DPER 8100, DPER 8200, DPER 8300
In this postdoctoral course, students receive experiences with all accepted methods of periodontal treatment, dental implantology, and periodontal plastic procedures.

University of Colorado Denver Health Sciences Programs 2008-2009
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<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>DPER 9105</td>
<td>Periodontal Research 5</td>
<td>0.5 cr.</td>
</tr>
<tr>
<td></td>
<td>Prereq: DPER 7305, DPER 8105, DPER 8205, DPER 8305</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Course requires student to select a research topic, define a research question, do a literature search on the topic, organize a research project, carry out the project, collect and analyze the results, and write a publishable manuscript on the project.</td>
<td></td>
</tr>
<tr>
<td>DPER 9106</td>
<td>Periodontics Clinical Teaching 2A</td>
<td>4.0 cr.</td>
</tr>
<tr>
<td></td>
<td>Prereq: DPER 8206, DPER 8306</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Postdoctoral periodontics students gain experience in instructing dental and hygiene students after receiving instruction in the basics of didactic and clinical teaching. (Part 1 of two-semester course)</td>
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<tr>
<td>DPER 9115</td>
<td>Advanced Diagnosis of Oral Lesions</td>
<td>2.0 cr.</td>
</tr>
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<td></td>
<td>This program in oral pathology is designed to prepare the student to recognize, analyze, and appreciate primary and secondary disease conditions of the oral and paraoral regions which may present in patients under his or her care and to respond in an appropriate manner when these conditions manifest</td>
<td></td>
</tr>
</tbody>
</table>

### Third Year, Fall Semester

<table>
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<tr>
<td>DPER 9200</td>
<td>Periodontics Specialty Clinic 8</td>
<td>8.0 cr.</td>
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<td></td>
<td>Prereq: DPER 7100, DPER 7200, DPER 7300, DPER 8100, DPER 8200, DPER 8300, DPER 9100</td>
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</tr>
<tr>
<td></td>
<td>In this postdoctoral course, students receive experiences with all accepted methods of periodontal treatment, dental implantology, and periodontal plastic procedures.</td>
<td></td>
</tr>
<tr>
<td>DPER 9201</td>
<td>Periodontal Journal Club 3A</td>
<td>0.5 cr.</td>
</tr>
<tr>
<td></td>
<td>Prereq: DPER 7201, DPER 7301, DPER 8201, DPER 8301</td>
<td></td>
</tr>
<tr>
<td></td>
<td>This postdoctoral course encompasses a review of the latest dental and medical journals for the most recent information related to the art, science, and practice of periodontics. Students prepare abstracts to be and discussed at scheduled seminars. (Part 1 of two-semester course)</td>
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</tr>
<tr>
<td>DPER 9202</td>
<td>Periodontics Treatment Planning 3A</td>
<td>1.0 cr.</td>
</tr>
<tr>
<td></td>
<td>Prereq: DPER 7202, DPER 7302, DPER 8202, DPER 8302</td>
<td></td>
</tr>
<tr>
<td></td>
<td>In this postdoctoral seminar course, Periodontic and GPR residents present a documentation database, diagnosis and treatment plans for patients treated communally in these two clinics. (Part 1 of two-semester course)</td>
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<tr>
<td>DPER 9203</td>
<td>Periodontal Literature Review Seminar 5</td>
<td>4.0 cr.</td>
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<tr>
<td></td>
<td>Prereq: DPER 7203, DPER 7303, DPER 8203, DPER 8303</td>
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<tr>
<td></td>
<td>In this postdoctoral seminar course, relevant readings in the periodontal literature relating to specific topics are assigned and critically discussed.</td>
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<tr>
<td>DPER 9204</td>
<td>Periodontal Case Presentations Seminar 3A</td>
<td>2.0 cr.</td>
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<tr>
<td></td>
<td>Prereq: DPER 7204, DPER 7304, DPER 8204, DPER 8304</td>
<td></td>
</tr>
<tr>
<td></td>
<td>In this postdoctoral course, residents prepare and present a complete documentation database, diagnosis/prognosis, treatment plan, treatment procedures, and evaluation of treatment results in formal case presentations simulating the oral examination for the American Board of Periodontology. (Part 1 of two-semester course)</td>
<td></td>
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<tr>
<td>DPER 9205</td>
<td>Periodontal Research 6</td>
<td>2.0 cr.</td>
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<tr>
<td></td>
<td>Prereq: DPER 7305, DPER 8105, DPER 8205, DPER 8305, DPER 9105</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Course requires student to select a research topic, define a research question, do a literature search on the topic, organize a research project, carry out the project, collect and analyze the results, and write a publishable manuscript on the project.</td>
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<tr>
<td>DPER 9206</td>
<td>Periodontics Clinical Teaching 2B</td>
<td>6.0 cr.</td>
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<tr>
<td></td>
<td>Prereq: DPER 8206, DPER 8306, DPER 9106</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Postdoctoral periodontics students gain experience in instructing dental and hygiene students after receiving instruction in the basics of didactic and clinical teaching. (Part 2 of two-semester course)</td>
<td></td>
</tr>
<tr>
<td>DPER 9209</td>
<td>Periodontics Specialty Elective</td>
<td>2.0 cr.</td>
</tr>
<tr>
<td></td>
<td>This postdoctoral course will allow the resident to gain extra experience and concentrate in an area of his/her choosing such as research, teaching, dental implants, periodontal plastic surgery, etc.</td>
<td></td>
</tr>
<tr>
<td>DPER 9212</td>
<td>Postgraduate Dental Implantology Seminar 3A</td>
<td>1.0 cr.</td>
</tr>
<tr>
<td></td>
<td>Prereq: DPER 7112, DPER 7212, DPER 7312, DPER 8212, DPER 8312</td>
<td></td>
</tr>
<tr>
<td></td>
<td>This lecture and seminar course, relevant readings in the dental literature relating to specific topics in dental implantology are assigned and critically discussed. A variety of cases are treatment planned by the residents. (Part 1 of two-semester course)</td>
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</table>
**Third Year, Spring Semester**

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tr>
<td>DPER 9300</td>
<td>Periodontics Specialty Clinic 9</td>
<td>12.0</td>
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<td>Prereq:</td>
<td>DPER 7100, DPER 7200, DPER 7300, DPER 8100, DPER 8200, DPER 8300, DPER 9100, DPER 9200</td>
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</tr>
<tr>
<td></td>
<td>In this postdoctoral course, students receive experiences with all accepted methods of periodontal treatment, dental implantology, and periodontal plastic procedures.</td>
<td></td>
</tr>
<tr>
<td>DPER 9301</td>
<td>Periodontal Journal Club 3B</td>
<td>0.8</td>
</tr>
<tr>
<td>Prereq:</td>
<td>DPER 7201, DPER 7301, DPER 8201, DPER 8301, DPER 9201</td>
<td></td>
</tr>
<tr>
<td></td>
<td>This postdoctoral course encompasses a review of the latest dental and medical journals for the most recent information related to the art, science, and practice of periodontics. Students prepare abstracts to be and discussed at scheduled seminars. <em>(Part 2 of two-semester course)</em></td>
<td></td>
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<tr>
<td>DPER 9302</td>
<td>Periodontics Treatment Planning 3B</td>
<td>1.5</td>
</tr>
<tr>
<td>Prereq:</td>
<td>DPER 7202, DPER 7302, DPER 8202, DPER 8302, DPER 9202</td>
<td></td>
</tr>
<tr>
<td></td>
<td>In this postdoctoral seminar course, Periodontic and GPR residents present a documentation database, diagnosis and treatment plans for patients treated communally in these two clinics. <em>(Part 2 of two-semester course)</em></td>
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<tr>
<td>DPER 9303</td>
<td>Periodontal Literature Review Seminar 6</td>
<td>6.0</td>
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<tr>
<td>Prereq:</td>
<td>DPER 7203, DPER 7303, DPER 8203, DPER 8303, DPER 9203</td>
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<tr>
<td></td>
<td>In this postdoctoral seminar course, relevant readings in the periodontal literature relating to specific topics are assigned and critically discussed.</td>
<td></td>
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<tr>
<td>DPER 9304</td>
<td>Periodontal Case Presentations Seminar 3B</td>
<td>3.0</td>
</tr>
<tr>
<td>Prereq:</td>
<td>DPER 7204, DPER 7304, DPER 8204, DPER 8304, DPER 9204</td>
<td></td>
</tr>
<tr>
<td></td>
<td>In this postdoctoral course, residents prepare and present a complete documentation database, diagnosis/prognosis, treatment plan, treatment procedures, and evaluation of treatment results in formal case presentations simulating the oral examination for the American Board of Periodontology. <em>(Part 2 of two-semester course)</em></td>
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<tr>
<td>DPER 9305</td>
<td>Periodontal Research 7</td>
<td>3.0</td>
</tr>
<tr>
<td>Prereq:</td>
<td>DPER 7305, DPER 8105, DPER 8205, DPER 8305, DPER 9105, DPER 9205</td>
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<tr>
<td></td>
<td>Course requires student to select a research topic, define a research question, do a literature search on the topic, organize a research project, carry out the project, collect and analyze the results, and write a publishable manuscript on the project.</td>
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<tr>
<td>DPER 9306</td>
<td>Periodontics Clinical Teaching 2C</td>
<td>6.0</td>
</tr>
<tr>
<td>Prereq:</td>
<td>DPER 8206, DPER 8306, DPER 9106, DPER 9206</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Postdoctoral periodontics students gain experience in instructing dental and hygiene students after receiving instruction in the basics of didactic and clinical teaching. <em>(Part 3 of three-semester course)</em></td>
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<tr>
<td>DPER 9309</td>
<td>Periodontics Specialty Elective</td>
<td>3.0</td>
</tr>
<tr>
<td></td>
<td>This postdoctoral course will allow the resident to gain extra experience and to concentrate in an area of his/her choosing such as research, teaching, dental implants, periodontal plastic surgery, etc.</td>
<td></td>
</tr>
<tr>
<td>DPER 9312</td>
<td>Postgraduate Dental Implantology Seminar 3B</td>
<td>1.5</td>
</tr>
<tr>
<td>Prereq:</td>
<td>DPER 7112, DPER 7212, DPER 7312, DPER 8212, DPER 8312, DPER 9212</td>
<td></td>
</tr>
<tr>
<td></td>
<td>This lecture and seminar course, relevant readings in the dental literature relating to specific topics in dental implantology are assigned and critically discussed. A variety of cases are treatment planned by the residents. <em>(Part 2 of two-semester course)</em></td>
<td></td>
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</tbody>
</table>

**ORTHODONTICS CERTIFICATE PROGRAM**

*(The Orthodontics Certificate curriculum is subject to change without notice.)*

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>DSOR 5101</td>
<td>Orthodontics 101 – Boot Camp</td>
<td>4.3</td>
</tr>
<tr>
<td></td>
<td>This post-doctoral course is an intense review of the breadth and scope of orthodontics including growth and development and the different clinical orthodontic modalities.</td>
<td></td>
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<tr>
<td>DSOR 5102</td>
<td>Dentofacial Growth and Development 1</td>
<td>2.0</td>
</tr>
<tr>
<td></td>
<td>This post-doctoral course is an in-depth study of human growth and development that includes basic embryology of the head and neck, growth theories and facial and dental arch changes throughout human life.</td>
<td></td>
</tr>
<tr>
<td>DSOR 5103</td>
<td>Diagnosis and Treatment Planning 1</td>
<td>3.0</td>
</tr>
<tr>
<td></td>
<td>This post-doctoral course is an in-depth study of advanced orthodontic data gathering and interpretation as used in orthodontic diagnosis and treatment planning.</td>
<td></td>
</tr>
</tbody>
</table>

University of Colorado Denver Health Sciences Programs 2008-2009
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<tbody>
<tr>
<td>DSOR 5104</td>
<td>Biomechanics 1</td>
<td>3.0 cr.</td>
</tr>
<tr>
<td></td>
<td>This post-doctoral course is an in-depth, advanced study of orthodontic biomechanical systems and their effect on the craniofacial and dental structures. Included in this course are the protocols required to treat both skeletal and dental malocclusions.</td>
<td></td>
</tr>
<tr>
<td>DSOR 5105</td>
<td>Research Methodology and Biostatistics 1</td>
<td>2.0 cr.</td>
</tr>
<tr>
<td></td>
<td>This post-doctoral course is an in-depth study of scientific research methods, study design and organization, data gathering, and the biostatistical tools required to analyze the results of a study.</td>
<td></td>
</tr>
<tr>
<td>DSOR 5107</td>
<td>Treatment Planning 1</td>
<td>3.0 cr.</td>
</tr>
<tr>
<td></td>
<td>This post-doctoral course is the case-based study of advanced orthodontic treatment planning. Post-doctoral students are required to present patient diagnoses and proposed treatment plans for faculty and student discussion, to include treatment modality presentations by students.</td>
<td></td>
</tr>
<tr>
<td>DSOR 5108</td>
<td>Current Literature Review 1</td>
<td>1.0 cr.</td>
</tr>
<tr>
<td></td>
<td>Course is the study, analysis and discussion of journal articles and topics that are prominent in orthodontics within the previous year. Post-doctoral students critically review and analyze the articles to determine advances in the art and science of orthodontics.</td>
<td></td>
</tr>
<tr>
<td>DSOR 5111</td>
<td>History of Orthodontics &amp; Dentofacial Orthopedics</td>
<td>1.0 cr.</td>
</tr>
<tr>
<td></td>
<td>This post-doctoral course is an in-depth study of the development of orthodontic treatment and of orthodontics as a specialty, including the study of prominent figures that played a part in specialty and treatment development.</td>
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<tr>
<td>DSOR 5841</td>
<td>Research 1</td>
<td>0.4 cr.</td>
</tr>
<tr>
<td></td>
<td>Course requires student to select a research topic, define a research question, do a literature search on the topic, organize a research project, carry out the project, collect and analyze the results, and write a publishable manuscript on the project.</td>
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</tr>
<tr>
<td>DSOR 5931</td>
<td>Clinical Orthodontics 1</td>
<td>7.8 cr.</td>
</tr>
<tr>
<td></td>
<td>This post-doctoral course involves the advanced treatment of orthodontic problems and patient care. Supervision is provided by educationally qualified orthodontists to provide high quality and efficient clinical patient care.</td>
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</tbody>
</table>

**FIRST YEAR, Spring Semester**

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<tr>
<td>DSOR 5201</td>
<td>Pathology/Microanatomy Spring</td>
<td>1.2 cr.</td>
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<td></td>
<td>This post-doctoral course is an in-depth study of orofacial pathology and microanatomy that is pertinent to orthodontic diagnosis, treatment planning, and treatment, to include the micro-anatomical effects of tooth movement.</td>
<td></td>
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<tr>
<td>DSOR 5202</td>
<td>Dentofacial Growth and Development 2</td>
<td>2.5 cr.</td>
</tr>
<tr>
<td>Prereq: DSOR5102</td>
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</tr>
<tr>
<td></td>
<td>This post-doctoral course is an in-depth study of human growth and development that includes the affects of treatment on growth and development.</td>
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</tr>
<tr>
<td>DSOR 5203</td>
<td>Diagnosis and Treatment Planning 2</td>
<td>1.3 cr.</td>
</tr>
<tr>
<td>Prereq: DSOR5103</td>
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</tr>
<tr>
<td></td>
<td>This post-doctoral course is a continuation of the in-depth study of advanced orthodontic data gathering and interpretation as used in orthodontic diagnosis and treatment planning.</td>
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<tr>
<td>DSOR 5204</td>
<td>Biomechanics 2</td>
<td>5.0 cr.</td>
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<tr>
<td>Prereq: DSOR5104</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>This post-doctoral course is an in-depth, advanced study of orthodontic biomechanical systems and their effect on the craniofacial and dental structures. Included in this course are the protocols required to treat both skeletal and dental malocclusions.</td>
<td></td>
</tr>
<tr>
<td>DSOR 5205</td>
<td>Research Methodology &amp; Biostatistics 2</td>
<td>2.5 cr.</td>
</tr>
<tr>
<td>Prereq: DSOR5105</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>This post-doctoral course is an in-depth study of scientific research methods, study design and organization, data gathering, and the biostatistical tools required to analyze the results of the study.</td>
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<tr>
<td>DSOR 5207</td>
<td>Treatment Planning 2</td>
<td>3.8 cr.</td>
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<tr>
<td>Prereq: DSOR5107</td>
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<tr>
<td></td>
<td>This post-doctoral course is the case-based study of advanced orthodontic treatment planning. Post-doctoral students are required to present patient diagnoses and proposed treatment plans for faculty and student discussion, to include treatment modality presentations by students.</td>
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<td>Course Code</td>
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<td>DSOR 5208</td>
<td>Current Literature Review 2</td>
<td>1.3 cr.</td>
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<tr>
<td>DSOR 5211</td>
<td>Treatment in Preadolescent Children</td>
<td>1.0 cr.</td>
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<tr>
<td>DSOR 5842</td>
<td>Research 2</td>
<td>0.8 cr.</td>
</tr>
<tr>
<td>DSOR 5932</td>
<td>Clinical Orthodontics 2</td>
<td>9.5 cr.</td>
</tr>
<tr>
<td>DSOR 5301</td>
<td>Head and Neck Anatomy</td>
<td>1.5 cr.</td>
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<tr>
<td>DSOR 5304</td>
<td>Biomechanics 3</td>
<td>1.5 cr.</td>
</tr>
<tr>
<td>DSOR 5307</td>
<td>Treatment Planning 3</td>
<td>2.0 cr.</td>
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<tr>
<td>DSOR 5308</td>
<td>Current Literature Review 3</td>
<td>0.7 cr.</td>
</tr>
<tr>
<td>DSOR 5311</td>
<td>Scientific Writing and Evaluation</td>
<td>1.5 cr.</td>
</tr>
<tr>
<td>DSOR 5321</td>
<td>Orthognathic Surgical Treatment</td>
<td>1.5 cr.</td>
</tr>
<tr>
<td>DSOR 5331</td>
<td>Management of the TMJ Patient</td>
<td>0.7 cr.</td>
</tr>
<tr>
<td>DSOR 5341</td>
<td>Fundamentals of Teaching</td>
<td>0.7 cr.</td>
</tr>
<tr>
<td>DSOR 5843</td>
<td>Research 3</td>
<td>1.7 cr.</td>
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</table>

**FIRST YEAR, Summer Semester**

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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>DSOR 5301</td>
<td>Head and Neck Anatomy</td>
<td>1.5 cr.</td>
</tr>
<tr>
<td>DSOR 5304</td>
<td>Biomechanics 3</td>
<td>1.5 cr.</td>
</tr>
<tr>
<td>DSOR 5307</td>
<td>Treatment Planning 3</td>
<td>2.0 cr.</td>
</tr>
<tr>
<td>DSOR 5308</td>
<td>Current Literature Review 3</td>
<td>0.7 cr.</td>
</tr>
<tr>
<td>DSOR 5311</td>
<td>Scientific Writing and Evaluation</td>
<td>1.5 cr.</td>
</tr>
<tr>
<td>DSOR 5321</td>
<td>Orthognathic Surgical Treatment</td>
<td>1.5 cr.</td>
</tr>
<tr>
<td>DSOR 5331</td>
<td>Management of the TMJ Patient</td>
<td>0.7 cr.</td>
</tr>
<tr>
<td>DSOR 5341</td>
<td>Fundamentals of Teaching</td>
<td>0.7 cr.</td>
</tr>
<tr>
<td>DSOR 5843</td>
<td>Research 3</td>
<td>1.7 cr.</td>
</tr>
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</table>

Course requires student to select a research topic, define a research question, do a literature search on the topic, organize a research project, carry out the project, collect and analyze the results, and write a publishable manuscript on the project.
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<tr>
<td>DSOR 5933</td>
<td>Clinical Orthodontics 3</td>
<td>5.5 cr.</td>
</tr>
<tr>
<td></td>
<td>Prereq: DSOR5931, DSOR5932</td>
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</tr>
<tr>
<td></td>
<td>Supervision is provided by educationally qualified orthodontists to provide high quality and efficient clinical patient care.</td>
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<tr>
<td>DSOR 6101</td>
<td>Implants in the Orthodontic Patient</td>
<td>1.2 cr.</td>
</tr>
<tr>
<td></td>
<td>This post-doctoral course is an in-depth study of the use of implants in patients both for restorative dentistry and as orthodontic anchorage.</td>
<td></td>
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<tr>
<td>DSOR 6107</td>
<td>Treatment Planning 4</td>
<td>3.4 cr.</td>
</tr>
<tr>
<td></td>
<td>Prereq: DSOR5107, DSOR5207, DSOR5307</td>
<td></td>
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<td></td>
<td>This post-doctoral course is the case-based study of advanced orthodontic treatment planning. Postdoctoral students are required to present patient diagnoses and proposed treatment plans for faculty and student discussion, to include treatment modality presentations by students.</td>
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<tr>
<td>DSOR 6108</td>
<td>Current Literature Review 4</td>
<td>1.1 cr.</td>
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<tr>
<td></td>
<td>Prereq: DSORS5108, DSORS5208, DSORS5308</td>
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<td></td>
<td>Course is the study, analysis and discussion of journal articles and topics that are prominent in orthodontics within the previous year. Post-doctoral students critically review and analyze the articles to determine advances in the art and science of orthodontics.</td>
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<tr>
<td>DSOR 6109</td>
<td>Orthodontic Predoctoral Laboratory Teaching 1</td>
<td>0.3 cr.</td>
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<tr>
<td></td>
<td>This post-doctoral course requires the student to teach basic orthodontic diagnostic and treatment techniques to the predoctoral dental student.</td>
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<tr>
<td>DSOR 6111</td>
<td>Periodontic/Orthodontic Treatment</td>
<td>1.2 cr.</td>
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<tr>
<td></td>
<td>This post-doctoral course is a study of the interdisciplinary care of the patient with periodontal and orthodontic needs and includes a review of the literature in conjunction with a periodontist.</td>
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<tr>
<td>DSOR 6121</td>
<td>Genetics</td>
<td>2.1 cr.</td>
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<td></td>
<td>This post-doctoral course is a study of genetics and advances in genetics and the impact on the care of the orthodontic patient.</td>
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<tr>
<td>DSOR 6844</td>
<td>Research 4</td>
<td>2.2 cr.</td>
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<tr>
<td></td>
<td>Prereq: DSORS5841, DSORS5842, DSORS5843</td>
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<td></td>
<td>Course requires student to select a research topic, define a research question, do a literature search on the topic, organize a research project, carry out the project, collect and analyze the results, and write a publishable manuscript on the project.</td>
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<tr>
<td>DSOR 6934</td>
<td>Clinical Orthodontics IV Fall</td>
<td>9.6 cr.</td>
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<tr>
<td></td>
<td>Prereq: DSORS5931, DSORS5932, DSORS5933</td>
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<tr>
<td></td>
<td>This post-doctoral course involves the advanced treatment of orthodontic problems and patient care. Supervision is provided by educationally qualified orthodontists to provide high quality and efficient clinical patient care.</td>
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</tbody>
</table>

SECOND YEAR, Fall Semester

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSOR 6201</td>
<td>Ethics, Practice Management, Jurisprudence</td>
<td>2.5 cr.</td>
</tr>
<tr>
<td></td>
<td>This post-doctoral course is an in-depth study of ethics, managing a practice and jurisprudence as it relates to the clinical practice of orthodontics.</td>
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</tr>
<tr>
<td>DSOR 6206</td>
<td>Dento/Craniofacial Anomalies</td>
<td>1.3 cr.</td>
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<tr>
<td></td>
<td>Prereq: DSORS5106, DSORS5206, DSORS5306, DSORS6106</td>
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<tr>
<td></td>
<td>This post-doctoral course is a study of dental and craniofacial anomalies and the orthodontic and surgical treatment of patients. This includes both seminars, case-based and case-presentation study.</td>
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</tr>
<tr>
<td>DSOR 6207</td>
<td>Treatment Planning 5</td>
<td>3.8 cr.</td>
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<tr>
<td></td>
<td>Prereq: DSORS5107, DSORS5207, DSORS5307, DSORS6107</td>
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<tr>
<td></td>
<td>This post-doctoral course is the case-based study of advanced orthodontic treatment planning. Post-doctoral students are required to present patient diagnoses and proposed treatment plans for faculty and student discussion, to include treatment modality presentations by students.</td>
<td></td>
</tr>
<tr>
<td>DSOR 6208</td>
<td>Current Literature Review 5</td>
<td>1.3 cr.</td>
</tr>
<tr>
<td></td>
<td>Prereq: DSORS5108, DSORS5208, DSORS5308, DSORS6108</td>
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</tr>
<tr>
<td></td>
<td>Course is the study, analysis and discussion of journal articles and topics that are prominent in orthodontics within the previous year. Post-doctoral students critically review and analyze the articles to determine advances in the art and science of orthodontics.</td>
<td></td>
</tr>
</tbody>
</table>
DSOR 6845  Research 5  2.4 cr.
Prereq: DSOR5841, DSOR5842, DSOR5843, DSOR6844
Course requires student to select a research topic, define a research question, do a literature search on the topic, organize a research project, carry out the project, collect and analyze the results, and write a publishable manuscript on the project.

DSOR 6935  Clinical Orthodontics 5  11.1 cr.
Prereq: DSOR5931, DSOR5932, DSOR5933, DSOR6934
This post-doctoral course involves the advanced treatment of orthodontic problems and patient care.
Supervision is provided by educationally qualified orthodontists to provide high quality and efficient clinical patient care.

THIRD YEAR, Summer Semester

DSOR 7107  Treatment Planning 6  2.2 cr.
Prereq: DSOR5107, DSOR5207, DSOR5307, DSOR6107, DSOR6207
This post-doctoral course is the case-based study of advanced orthodontic treatment planning. Post-doctoral students are required to present patient diagnoses and proposed treatment plans for faculty and student discussion, to include treatment modality presentations by students.

DSOR 7112  Orthodontic Clinical Teaching 2  0.9 cr.
This post-doctoral course requires the student to teach basic orthodontic diagnostic and treatment techniques to the predoctoral dental student.

DSOR 7108  Current Literature Review 6  0.7 cr.
Prereq: DSOR5108, DSOR5208, DSOR 5308, DSOR6108, DSOR 6208
Course is the study, analysis and discussion of journal articles and topics that are prominent in orthodontics within the previous year. Post-doctoral students critically review and analyze the articles to determine advances in the art and science of orthodontics.

DSOR 7846  Research 6  1.7 cr.
Prereq: DSOR5841, DSOR5842, DSOR5843, DSOR6844, DSOR6845
Course requires student to select a research topic, define a research question, do a literature search on the topic, organize a research project, carry out the project, collect and analyze the results, and write a publishable manuscript on the project.

DSOR 7936  Clinical Orthodontics 6  6.4 cr.
Prereq: DSOR5931, DSOR5932, DSOR5933, DSOR6934, DSOR6935
This post-doctoral course involves the advanced treatment of orthodontic problems and patient care.
Supervision is provided by educationally qualified orthodontists to provide high quality and efficient clinical patient care.

DSOR 7938  Clinical Problems 1  0.7 cr.
Course is a case-based course to study clinical problems encountered in the practice of orthodontics by the orthodontic specialist. It requires the student to analyze and then present the records of patients who encountered less than ideal results during treatment.

THIRD YEAR, Fall Semester

DSOR 7207  Treatment Planning 7  2.8 cr.
Prereq: DSOR5107, DSOR5207, DSOR5307, DSOR6107, DSOR6207, DSOR7107
This post-doctoral course is the case-based study of advanced orthodontic treatment planning. Post-doctoral students are required to present patient diagnoses and proposed treatment plans for faculty and student discussion, to include treatment modality presentations by students.
DSOR 7208  Current Literature Review 7  1.0 cr.
   Prereq: DSOR5108, DSOR5208, DSOR 5308, DSOR 6108, DSOR6208, DSOR 7108
   Course is the study, analysis and discussion of journal articles and topics that are prominent in orthodontics within the previous year. Post-doctoral students critically review and analyze the articles to determine advances in the art and science of orthodontics.

DSOR 7209  Orthodontic Predoctoral Laboratory Teaching 2  0.3 cr.
   This post-doctoral course requires the student to teach basic orthodontic diagnostic and treatment techniques to the predoctoral dental student.

DSOR 7212  Orthodontic Clinical Teaching 3  1.1 cr.
   This post-doctoral course requires the student to teach basic orthodontic diagnostic and treatment techniques to the predoctoral dental student.

DSOR 7847  Research 7  1.7 cr.
   Prereq: DSOR5841, DSOR5842, DSOR5843, DSOR6844, DSOR6845, DSOR7846
   Course requires student to select a research topic, define a research question, do a literature search on the topic, organize a research project, carry out the project, collect and analyze the results, and write a publishable manuscript on the project.

DSOR 7937  Clinical Orthodontics 7  8.2 cr.
   Prereq: DSOR5931, DSOR5932, DSOR5933, DSOR6934, DSOR6935, DSOR 7936
   This post-doctoral course involves the advanced treatment of orthodontic problems and patient care. Supervision is provided by educationally qualified orthodontists to provide high quality and efficient clinical patient care.

DSOR 7939  Clinical Problems 2  1.0 cr.
   Course is a case-based course to study clinical problems encountered in the practice of orthodontics by the orthodontic specialist. It requires the student to analyze and then present the records of patients who encountered less than ideal results during treatment.
# GRADUATE SCHOOL

The following courses, listed alphabetically by department, have been approved for graduate credit. Please see the interdepartmental (IDPT) section for courses which are taught cooperatively by individual departments.

## BIOCHEMISTRY AND MOLECULAR GENETICS

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Instructor</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMGN 7650</td>
<td>Research in Biochemistry and Molecular Genetics</td>
<td>Variable cr.</td>
<td>Dr. P. Megee</td>
<td>(Fall, Spring, Summer) Prereq: Consent of instructor. Research work in biochemistry and molecular genetics.</td>
</tr>
<tr>
<td>BMGN 7660</td>
<td>Biochemistry Seminar</td>
<td>1.0 cr.</td>
<td>Dr. P. Megee</td>
<td>(Fall, Spring) Seminar series provides a forum for the presentation of scientific experiments and information in biochemistry by faculty, postdoctoral fellows graduate students, and invited outside guest speakers.</td>
</tr>
<tr>
<td>BMGN 8990</td>
<td>Doctoral Thesis</td>
<td>Variable cr.</td>
<td>Dr. P. Megee</td>
<td>(Spring, Summer, Fall) Prereq: Consent of instructor. Doctoral thesis work in biochemistry and molecular genetics.</td>
</tr>
</tbody>
</table>

## BIOINFORMATICS

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Instructor</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOI 7210</td>
<td>Introduction to Computer Science</td>
<td>3.0 cr.</td>
<td>Dr. D. Lezotte</td>
<td>(Fall) Prereq: CU-Boulder CSCI 3155 or equivalent. Crosslisted CU-Boulder: CSCI-5582. Overview of artificial intelligence methods, theories, and applications. Relationships between artificial intelligence and psychology, linguistics, and philosophy. Introduction to artificial intelligence programming.</td>
</tr>
<tr>
<td>BIOI 7410</td>
<td>Introduction to Bayesian Statistics</td>
<td>3.0 cr.</td>
<td>Dr. M. Fitzgerald</td>
<td>(Fall) Crosslisted: CU-Denver MATH 5396. Prereq: MATH 3800 or MATH 4810 and MATH 4820 or equivalent. Introduction to Bayesian Statistical Methods. Covers prior and posterior distributions, conjugate models, single and multi parameter models, hierarchical models, mixture models, numerical methods for evaluating posterior distributions, Monte Carlo methods and Markov chain Monte Carlo simulations.</td>
</tr>
<tr>
<td>BIOI 7412</td>
<td>Mathematics for Bioscientists</td>
<td>1.0 cr.</td>
<td>Dr. S. Billups</td>
<td>(Fall) Crosslisted: CU Denver MATH 5198. Prereq: Consent of instructor. Develops mathematical reasoning; introduces linear algebra, discrete structures, graph theory, probability, and differential equations, using applications to molecular biology.</td>
</tr>
<tr>
<td>BIOI 7601</td>
<td>Selected Topics in Biomedical Science for Bioinformatics Students 1</td>
<td>3.3 cr.</td>
<td>Dr. D. Lezotte</td>
<td>(Fall) Crosslisted: IDPT 7801. Prereq: Consent of instructor. Selected topics in structural, cellular and molecular biology chosen from lectures offered in IDPT 7801.</td>
</tr>
<tr>
<td>BIOI 7602</td>
<td>Selected Topics in Biomedical Science for Bioinformatics Students 2</td>
<td>3.3 cr.</td>
<td>Dr. D. Lezotte</td>
<td>(Fall) Crosslisted: IDPT 7802. Prereq: Consent of instructor. Selected topics in structural, cellular and molecular biology chosen from lectures offered in IDPT 7802.</td>
</tr>
<tr>
<td>BIOI 7603</td>
<td>Selected Topics in Biomedical Science for Bioinformatics Students 3</td>
<td>3.4 cr.</td>
<td>Dr. D. Lezotte</td>
<td>(Fall) Crosslisted: IDPT-7803. Prereq: Consent of instructor. Selected topics in structural, cellular and molecular biology chosen from lectures offered in IDPT 7803.</td>
</tr>
<tr>
<td>BIOI 7605</td>
<td>Ethics and Values in Computational Bioscience Research</td>
<td>1.0 cr.</td>
<td>Dr. M.Yarborough</td>
<td>(Spring) Prereq: Computational bioscience PhD students or consent of instructor. This course will examine the philosophical basis for current research ethics practices, address current ethical issues and controversies in bio-computational research, and provide students with knowledge and analytical skills to address the ethical dimensions of biomedical informatics.</td>
</tr>
<tr>
<td>BIOI 7606</td>
<td>Statistics for the Basic Sciences</td>
<td>3.0 cr.</td>
<td>Dr. D. Everett</td>
<td>(Spring) Crosslisted: BIOS 6606. This course provides an overview of fundamental concepts in statistics such as hypothesis testing and estimation and it provides an overview of statistical methods (for example, regression and analysis of variance) that apply to many areas of science.</td>
</tr>
<tr>
<td>BIOI 7655</td>
<td>Statistical Methods in Genetic Association Studies</td>
<td>3.0 cr.</td>
<td>Dr. T. Fingerlin</td>
<td>(Fall) (Next Offered Fall 2009) Crosslisted: BIOS 6655. Preq: BIOS 6612 or consent of instructor.</td>
</tr>
</tbody>
</table>
This course is designed to give an introduction to statistical methods in genetic association studies. Topics include an introduction to population genetics topics relevant to genetic association studies, design strategies and analysis methods for case-control and family data.

**BIOI 7659  Statistical Methods in Bioinformatics**  
Dr. K. Kechris - (Fall) Crosslisted: BIOS 6659. Prereq: BIOS 6611 or equivalent graduate level statistics course with consent of instructor.

This course will give an introduction to statistical methods for analyzing molecular sequences and genomic data. Topics include hidden Markov models for sequence alignment, molecular evolution and gene expression data analysis.

**BIOI 7710  Survey of Bioinformatics Methods**  
Dr. L. Hunter – (Fall) Prereq: Consent of instructor. Restrictions: No Bioinformatics PhD Students can take this course for credit.

What is bioinformatics and why study it? How is large-scale molecular biology data generated, where and how can researchers gain access to it, and what computational analyses are possible?

**BIOI 7711  Bioinformatics I**  
Dr. L. Hunter – (Fall) Crosslisted: PHCL 7611. Prereq: Bioinformatics PhD students or consent of instructor.

What is bioinformatics and why study it? How is large-scale molecular biology data generated, where and how can researchers gain access to it, what computational analyses are possible and computational techniques for solving inference problems in molecular biology?

**BIOI 7712  Bioinformatics II**  
Dr. L. Hunter – (Spring) Prereq: PMB BIOI 7711

Inference problems and computational techniques for molecular biology, with emphasis on machine learning approaches. Use of computational induction techniques focused on information extraction from biomedical literature, inference of biochemical networks from high-throughput data, and prediction of protein function.

**BIOI 7785  Independent Study in Bioinformatics**  
Dr. D. Lezotte  –  (Fall, Spring, Summer) Prereq: Consent of instructor.

This course is for the advanced student who desires to pursue one or more Bioinformatics-related topics in considerable depth. Supervision by a full-time faculty member is necessary.

**BIOI 7791  Readings in Bioinformatics**  
Dr. D. Lezotte - (Fall, Spring, Summer) Prereq: Consent of instructor.

A seminar course in which students read and present recent publications from the primary bioinformatics literature.

**BIOI 7792  Special Topics in Bioinformatics**  
Dr. D. Lezotte – (Fall, Spring, Summer) Prereq: Consent of instructor.

Special topics course with focus on new emerging Bioinformatics and Computational Biology problems and techniques.

**BIOI 8990  Doctoral Thesis**  
Dr. D. Lezotte  – (Fall, Spring, Summer) Prereq: Consent of instructor.

Doctoral thesis work in Bioinformatics.

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**BIOS 6601  Introduction to Biostatistics**  
Dr. J. Kittelson – (Fall, Spring)

An introduction to statistical methods in the health sciences emphasizing the use of statistics to answer research questions. Content includes descriptive and statistical inference; statistical methods include t-tests, one-way ANOVA, and linear regression. Statistical software is used.

**BIOS 6606  Statistics for the Basic Sciences**  
Dr. D. Everett – (Spring) Restrictions: Enrollment in UCDAMC graduate program or permission of the instructor.

This course provides an overview of fundamental concepts in statistics such as hypothesis testing and estimation, and it provides an overview of statistical methods (for example, regression and analysis of variance) that apply to many areas of science.

**BIOS 6607  Statistics for Pharmacology**  
Dr. D. Everett – (Spring) Course restrictions: Enrollment in UCDAMC graduate program or permission of the instructor.

This course provides an overview of fundamental concepts in statistics such as hypothesis testing and estimation, and it provides an overview of statistical methods (for example, 1- and 2- sample tests and microarray techniques) that apply to pharmacology.
BIOS 6611  Introduction to Applied Statistics  3.0 cr.
Dr. M Strand - (Fall) Prereq: Differential calculus.
This is a first course in applied statistics covering elementary probability, descriptive, parametric and non-parametric methods for one and two sample estimation/testing and some common simple cases of the univariate general linear model. The statistical package SAS used extensively.

BIOS 6612  Linear Models  3.0 cr.
Dr. L. Ogden - (Spring) Prereq: BIOS 6611.
This is a continuation of BIOS 6611 covering univariate linear modeling and emphasizing multiple regression and analysis of variance. Logistic regression and methods for correlated data are also covered. Matrix algebra and the statistical package SAS will be used.

BIOS 6621  Statistical Consulting  1.0 cr.
Dr. G. Grunwald - (Fall, Spring, Summer) Coreq: BIOS 6611 and consent of instructor/program director.
Students will gain experience with statistical consulting and common statistical problems and techniques encountered in consulting through a combination of real examples and consultations with investigators. Under faculty supervision, advanced students will work on consulting projects with investigators.

BIOS 6631  Statistical Theory I  3.0 cr.
Dr. D. Glueck - (Fall) Prereq: Differential and integral calculus.
This course presents an introductory coverage of the theory of discrete and continuous random variables and applications to statistical problems. Topics include probability theory, transformations and expectations, common families of distributions, multiple random variables, and properties of a random sample.

BIOS 6632  Statistical Theory II  3.0 cr.
Dr. S. MaWhinney – (Spring) Prereq: Differential and integral calculus.
This course covers theoretical and applied fundamentals of statistical inference. The course is a continuation of BIOS 6631. The primary topics include point estimation, hypothesis testing, interval estimation and asymptotic methods.

BIOS 6646  Survival Analysis  2.0 cr.
Dr. A. Barón – (Spring) Prereq: BIOS 6611 and BIOS 6631. Coreq: BIOS 6612 and BIOS 6632.
This course covers the analysis of time-to-event data with applications to biology, medicine, and public health. Nonparametric methods for group comparisons and semi-parametric regression models will be emphasized. Parametric methods and distribution theory for survival analysis will also be included.

BIOS 6648  Design of Clinical Trials and Experiments  2.0 cr.
Dr. J. Kittelson – (next offered Spring 2010) Prereq: BIOS 6611 or BIOS 6601.
The design and conduct of human intervention trials. Specific topics include: specifying the research question, study endpoints, study populations, study treatments, sample size evaluation, and choice of control groups. Common trial designs and issues in trial monitoring are described.

BIOS 6649  Statistical Methods for Clinical Trials  1.0 cr.
Dr. J. Kittelson – (Spring) Prereq: BIOS 6611. Coreq: BIOS 6612 and 6648.
This course is a companion to BIOS 6648 that focuses on statistical issues in the design and analysis of clinical trials including sample size calculations, trials with repeated measurements, and the statistical aspects of trial monitoring (group sequential designs).

BIOS 6651  Masters Research Paper  Variable cr.
Dr. G. Grunwald - (Fall, Spring, Summer)
Masters research paper in Biostatistics is completed under this course

BIOS 6655  Statistical Methods in Genetic Association Studies  3.0 cr.
Dr. T. Fingerlin – (Fall) (Next offered Fall 2009) Prereq: BIOS 6612 or consent of instructor
This course is designed to give an introduction to statistical methods in genetic association studies. Topics include an introduction to population genetics topics relevant to genetic association studies, design strategies, and analysis methods for case-control and family data.

BIOS 6659  Statistical Methods in Genomics  2.0 cr.
Dr. K. Kechris – (Fall) Crosslisted: BIOI 7659 Prereq: BIOS 6611 or equivalent graduate level statistics course with consent of instructor.
This course will give an introduction to statistical methods for analyzing molecular sequences and genomic data. Topics include hidden Markov models for sequence alignment, molecular evolution and gene expression data analysis.

BIOS 6680  SAS Programming for Research Data Management  2.0 cr.
Dr. J. Bondy - (Fall)
This course provides necessary introduction/experience to prepare data for statistical analyses. Course includes inputting, manipulating, recording, reformatting and organizing information into system/software/study specific formats. Course emphasizes report writing and simple statistical analyses using popular statistical software used in medical research.
BIOS 6681  Relational Data Management Systems for Medical Research  1.0 cr.
Dr. D. Lezotte – (Spring)
This course provides necessary introduction/experience to build/maintain information systems to facilitate data intensive clinical/epidemiological/health service research in academic health sciences environment. Course addresses: database design building data dictionaries, system implementation, maintenance, report writing, exporting data to other systems for analyses.

BIOS 6683  Introduction to Health Information Technology  3.0 cr.
Dr. P. Kaplan – (Spring) Prereq: Consent of instructor, graduate degree in Clinical Sciences or PRMD 6603.
Introductory course in Medical Informatics that exposes students to broad spectrum of computer-based application in areas of clinical medicine/public health; focus on applications using data/information/knowledge processed by computers to improve quality/efficiency of clinical medicine and delivery of public health service.

BIOS 6840  Research in Biostatistics  Variable cr.
Dr. G. Grunwald – (Fall, Spring, Summer) Prereq: Consent of Program Director
Resources of the program are available to those students who elect to carry out research in chosen topics. A faculty member will provide guidance throughout the project.

BIOS 6950  Masters Thesis  Variable cr.
Dr. G. Grunwald – (Fall, Spring, Summer)
Biostatistics Master thesis work is completed under this course.

BIOS 7711  Longitudinal Data Analysis  3.0 cr.
Dr. G. Zerbe – (Fall) Prereq: BIOS 6612.
The theory and application of univariate and multivariate techniques appropriate for longitudinal data are discussed with emphasis on recently developed growth curve and longitudinal models. Students will be exposed to theoretical developments and will analyze real data.

BIOS 7712  Special Topics in Statistics  1.0 cr.
Dr. G. Grunwald – (Spring) Prereq: BIOS 7711.
This course will cover special topics in applied statistics. Details of content will be announced by the instructor.

BIOS 7713  Statistical Methods for Missing Data  2.0 cr.
Dr. D. Fairclough – (Spring) Prereq: BIOS 7711 and BIOS 7712.
This course covers methodological research being carried out for longitudinal studies with missing data. Topics include missing data mechanisms, non-ignorable missing data, multiple imputation, mixture models and sample size determination. Students will complete a project applying methods to real datasets.

BIOS 7899  Independent Study in Biostatistics  Variable cr.
Dr. G. Grunwald - (Fall, Spring, Summer)  Prereq: Consent of Program Director.
This course is for the advanced student who wishes to pursue one or more topics in depth. These topics may involve bio-statistical material, or biological material necessary to the student’s bio-statistical work. Supervision by a full-time faculty member is necessary.

BIOS 8990  Doctoral Dissertation  Variable cr.
Dr. G. Grunwald - (Fall, Spring, Summer)
PhD dissertation work is completed under this course.

BIOMOLECULAR STRUCTURE

BMST 7350  Proteins  3.0 cr.
Dr. R. Hodges – (Spring) Crosslisted: PHSC 7350.
Provide chemical/physical basis for protein structure, folding, function and stability. Presents methods/principles of protein/peptide purification and enzyme catalysis including electron transfer and mutagenesis. The role of molecular dynamics and use of molecular simulations in the investigations of protein-ligand/protein-protein interactions.

BMST 7354  Structural Analysis of Bio-molecules I  2.0 cr.
Dr. R. Hodges – (Spring) Crosslisted: PHSC 7354.
Describes fundamentals of spectroscopic methods used to study protein structure/function. These techniques include optical methods (CD spectroscopy, fluorescence and absorbance) vibrational methods (IR and EST), analytical ultracentrifugation, mass spectrometry, calorimetry, light scattering and Biacore analysis. Taught alternate years.

BMST 7450  Protein Chemistry II  2.0 cr.
Dr. R. Hodges – (Spring) Crosslisted: PHSC 7450.
Protein Chemistry II presents methods and principles of protein/peptide purification and enzyme catalysis, including electron transfer and mutagenesis. The investigation of protein and enzyme structure/function, the role of molecular dynamics and use of molecular simulations in investigations of protein-ligand/protein-protein interactions will also be presented.
BMST 7454  Structural Analysis of Biomolecules II
Dr. R. Hodges – (Spring) Crosslisted: PHSC 7454.
Methods and strategies for determination of the primary and 3-dimensional structures of biologically important molecules. Crystallography, nuclear magnetic resonance spectroscopy and mass spectrometry will be taught in structural determination of proteins, nucleic acids complex carbohydrates, and lipid molecules.

BMST 7650  Research in Biomolecular Structure
Dr. R. Hodges – (Fall, Spring, Summer) Prereq: Consent of instructor.
Research work in Biomolecular Structure.

BMST 7660  Biomolecular Structure Seminar
Dr. R. Hodges – (Fall, Spring)
Seminars provide a forum for the presentation of scientific experiments and information in structural biology by faculty, postdoctoral fellows and graduate students.

BMST 8990  Doctoral Thesis
Dr. R. Hodges – (Fall, Spring, Summer)
Doctoral thesis work in Biomolecular Structure.

CANCER BIOLOGY

CANB 7600  Cancer Biology
Dr. S. K. Nordeen - (Spring) Prereq: IDPT 7801, IDPT 7802, IDPT 7803.
This course integrates the examination of cancer at molecular, cellular, tissue and organismal levels. Course open to all graduate students from any program with an interest in mechanisms and models of cancer and will give broad appreciation for current issues/problems.

CANB 7613  Research Seminars and Journal Club
Dr. R. Evans – (Fall, Spring)
Current research topics in experimental pathology, virology, and tumor biology. Graduate students and faculty presentations.

CANB 7620  Histophysiology
Dr. D. Orlicky - (Spring)
Discussions of cell interactions, tissue physiology, and renewal based upon the histologic cell types and structures present. Where pertinent, pathologic alterations will be introduced to facilitate identification of the important normal functions/structures.

CANB 7650  Research in Cancer Biology
Dr. S. K. Nordeen - (Fall, Spring, Summer) Prereq: Consent of instructor.
Research work in cancer biology.

CANB 8990  Doctoral Thesis
Dr. S. K. Nordeen - (Fall, Spring, Summer) Prereq: Consent of instructor.
Doctoral thesis work in cancer biology.

CANDIDATE FOR DEGREE

CAND 6940  Candidate for Degree
F. Osterberg - (Fall, Spring, Summer) Prereq: Consent of instructor.

CLINICAL SCIENCE

CLSC 6040  Introduction to Database & Web Design Programming
J. Huggins, MSW, MSCIS - (Fall, Spring)
This course is designed to provide 3 primary tools. First, an introduction to using MS Access as a database tool. Second, an introduction to designing web pages using Adobe Dreamweaver. Finally, connecting the database to the web.

CLSC 6050  Designing and Implementing Clinical Disease Management Programs
Dr. D. Tinkelman - (Spring) Crosslisted: CLSC 7050 Prereq: None, but BIOS 6601 or BIOS 6611 is recommended.
Course is designed to introduce masters level to new and broadening field of disease management. Students will learn about the positive/negative aspects of varied approaches in the field. Economic and clinical aspects of disease management will be discussed.
CLSC 6060  Systems Analysis and Design  
3.0 cr.
Dr. D. Tinkelman - (Fall, Spring, Summer)  Crosslisted: CU Denver ISMG 6040. Offered as a collaborative offering with UC Denver.
Course emphasizes information requirements analysis, logical system specification, detailed system design. Topics include structured system development methodologies, prototyping, file design, systems architecture, systems testing and software design strategies. Students will normally use a case tool to develop system specifications.

CLSC 6080  Database Management Systems  
3.0 cr.
Dr. W. Zhiping - (Fall, Spring, Summer)  Crosslisted: CU Denver ISMG 6080.
Offered as a collaborative offering with UC Denver, this course focuses on the development and management of database systems to support business operations. Important subjects include semantic data modeling, normalization, SQL, fourth generation languages, and client-server database applications.

CLSC 6120  Data Communications  
3.0 cr.
Dr. S. Walczak – (Fall, Spring, Summer)  Crosslisted: CU Denver ISMG 6120  Prereq: Knowledge of computer programming.
Offered as a collaborative offering with UC Denver, this course introduces the basic concepts of data transmission, principles governing the design and administration of both wide and local area networks, and technical issues pertaining to client server computing and open system interconnection.

CLSC 6251  Assistive Technology: Advanced Practices in AT Assessment  
3.0 cr.
M. Melonis, M.N.S. - (Fall, Spring, Summer)  
Students will learn to use family-centered, trans-disciplinary methods of assistive technology assessment for individuals with low-incidence disabilities. Observations, videotaped learning activities, and supervised assessment sessions will facilitate understanding of best practice in this field.

CLSC 6261  Assistive Technology: Implementation for Low Incidence Disabilities  
3.0 cr.
Dr. C. Bodine - (Summer)  
This course provides an overview of low incidence populations (including intellectual, hearing, and vision impairments), relevant research, and implementation strategies in early childhood and classroom settings. Emphasis is on implementation techniques, and working with trans-disciplinary teams, supporting agencies, and families.

CLSC 6271  Assistive Technology: Advanced Fieldwork Experience in AT  
2.0 cr.
Dr. C. Bodine - (Fall, Spring, Summer)  
Students participate in fieldwork experiences offering individually-tailored opportunities to engage in AT assessments, implementation of AT in various settings, family-centered Individual Educational Planning meetings, report-writing, outcomes-measurement, data-collection, practice, research-based methodologies. Peer-reviewed submission must be coordinated before grade assigned for course.

CLSC 6281  Assistive Technology: Engineering and Biotechnology: Principles & Emerging Technologies  
3.0 cr.
Dr. C. Bodine - (Fall, Summer)  
Course brings together engineers, AT students in other health-care related areas. The students develop an understanding of engineering principles, technical design process, emerging technologies relevant to assistive technology in the context of support for children with low-incidence disabilities.

CLSC 6300  Scientific Grant Review Process: GCRC Proposals  
1.0 cr.
Dr. R. Eckel - (Fall, Spring)  Prereq: BIOM 6601, BIOM 6602 or BIOM 6611-BIOM 6612) & CLSC 7500.
Intended for second year students. Students will understand and participate in the process of scientific review of human subject research protocols submitted to the University of Colorado Health Science Center’s GCRCs (both Adult and Pediatric GCRCs).

CLSC 6500  Introduction to Clinical Research  
1.0 cr.
Dr. J. Crapo - (Fall)  
This course provides an introduction to the general field of Clinical Research. It is designed for individuals who are interested in learning the fundamentals of how to prepare a scientific research proposal.

CLSC 6501  Introduction to Adult Medicine Research  
1.0 cr.
Dr. J. Crapo - (Fall, Summer)  
An introduction to the general field of clinical science with a focus on topics relevant to clinical research in the field of adult medicine. Designed for individuals interested in learning the fundamentals of how to prepare a scientific research proposal.

CLSC 6502  Clinical Research Training Program Intensive, Part II  
4.0 cr.
Dr. J. Crapo - (Fall)  
CRTP Intensive- Part I (This two-part series must be taken as a whole to obtain any credit). Grades are assigned only after Part II is completed.
CLSC 6503  Clinical Research Training Program Intensive, Part II  4.0 cr.
Dr. J. Crapo - (Spring) Prereq: CRTP Intensive, Part I.
CRTP Intensive- Part II (This two-part series must be taken as a whole to obtain any credit). Grades are assigned only after Part II is completed.

CLSC 6550  Applications of Biostatistics to Clinical Research Questions  1.0 cr.
Dr. J. Crapo - (Fall, Spring, Summer)
Introduction to allow clinician-scientists to be critical consumers of medical literature by improving their ability to discuss statistical issues about their own research and research of others. Familiarity will be gained with commonly used statistical methods and statistical terms.

CLSC 6591  Clinical Research Training Program Intensive, Parts 1 & 2  8.0cr.
Dr. J. Crapo - (Summer) Prereq: Graduate degree in clinical science or PRMD 6603 or consent.
This two-part series must be taken as a whole to obtain any credit. Grades are assigned only after part 2 is completed. CLSC 6591 should be taken by Adult-PhD, MSCS and Certificate Students.

CLSC 6592  Clinical Research Training Program Intensive, Parts 1 & 2  8.0cr.
Dr. J. Crapo - (Summer) Prereq: Graduate degree in clinical science or PRMD 6603 or consent.
This two-part series must be taken as a whole to obtain any credit. Grades are assigned only after part 2 is completed. CLSC 6592 should be taken by Pediatric-PhD, MSCS and Certificate Students.

CLSC 6593  Clinical Research Training Program Intensive, Parts 1 & 2  8.0cr.
Dr. J. Crapo - (Summer) Prereq: Graduate degree in clinical science or PRMD 6603 or consent.
This two-part series must be taken as a whole to obtain any credit. Grades are assigned only after part 2 is completed. CLSC 6593 should be taken by Adult-CRTP Students.

CLSC 6594  Clinical Research Training Program Intensive, Parts 1 & 2  8.0cr.
Dr. J. Crapo - (Summer) Prereq: Graduate degree in clinical science or PRMD 6603 or consent.
This two-part series must be taken as a whole to obtain any credit. Grades are assigned only after part 2 is completed. CLSC 6594 should be taken by Pediatric-CRTP Students.

CLSC 6606  Statistics for the Basic Sciences  3 cr.
Dr. J. Crapo - (Fall, Spring) Course Restrictions: Enrollment in CLSC graduate program or permission of the instructor.
This course provides an overview of fundamental concepts in statistics such as hypothesis testing and estimation, and it provides an overview of statistical methods (for example, regression and analysis of variance) that apply to many areas of science.

CLSC 6608  Statistics for the Basic Sciences – CLSC Supplement  8 cr.
Dr. J. Crapo - (Spring) Co-requisites: CLSC 6606 (BIOS 6606) Course Restrictions: Enrollment in CLSC graduate program or permission of the instructor.
This course provides an overview of epidemiology, logistic regression, and survival analysis, techniques that apply to many areas of clinical research.

CLSC 6650  Guided Research Tutorial – General  Variable cr.
Dr. J. Crapo - (Fall, Spring, Summer).
Students perform research projects during rotations under the direction of a mentor. Required of graduate students in the Clinical Sciences program.

CLSC 6651  Guided Research Tutorial - Pediatric GCRC Research  2.0 cr.
Dr. F. Accurso – (Spring) Prereq: CLSC 7300 and CLSC 7500.
Students perform Pediatric GCRC research projects during rotations under the direction of Pediatric GCRC faculty member(s).

CLSC 6652  Guided Research Tutorial – Adult GCRC Research  2.0 cr.
Dr. M. Garrity - (Spring) Prereq: CLSC 7300, CLSC 7500.
Students perform Adult GCRC research projects during rotations under the direction of an Adult GCRC faculty member(s).

CLSC 6653  Key Concepts in Neurodevelopmental Disabilities I  2.0 cr.
Dr. J. Crapo - (Fall) Prereq: A degree in health care profession or related field or instructor consent.
This course represents part one of two-part interdisciplinary course series focused on systems, options for diagnosis/assessment and alternatives for service provision related to children/youth/young adults with neurodevelopmental and related disabilities and their families to address this population’s special health care needs.

CLSC 6654  Key Concepts in Neurodevelopmental Disabilities II  2.0 cr.
Dr. J. Crapo - (Spring) Prereq: A degree in health care profession or related field or instructor consent, and completion of CLSC 6653.
This course represents part two of a two-part interdisciplinary course series focused on service provision, intervention strategies and service provision related to children/youth/young adults with neurodevelopmental and related disabilities and their families to address this population’s special health care needs.
CLSC 6655  Guided Research Tutorial – Proteomics  1.0 cr.
Dr. J. Crapo - (Fall, Spring, Summer)
Students perform research projects during rotations under the direction of a mentor in the U01 Proteomics Clinical Research Network. Required of graduate students in the Clinical Sciences program participating in the U01.

CLSC 6657  Cultural Factors in Healthcare  1.0 cr.
C. Mestas, M.A. - (Fall, Spring, Summer) Prereq: A degree in health care profession or related field or instructor consent.
This course will introduce the subject of cultural/social determinants of maternal and child health in the present society, including worldviews on health perspectives (wellness versus illness), and address the impact of emerging demographic changes on systems of care.

CLSC 6658  Interdisciplinary Approach to Promoting Early Parent Child Relationships –  2.0 cr.
Part I: Theory
Dr. C. Robinson - (Fall) Prereq: A degree in health care profession or related field or instructor consent.
Part one of a two-part course series that will examine the theory and research relevant to the assessment of early parent-child relationships as well as the clinical application for interventions across disciplines that are intended to promote/improve child health outcomes.

CLSC 6659  Interdisciplinary Approach to Promoting Early Parent Child Relationships –  3.0 cr.
Part II: Measurement
Dr. C. Robinson - (Spring) Prereq: A degree in health care profession or related field or instructor consent. Completion of CLSC 6658.
Part two of a two-part course that will examine research relevant to assessment of early parent/child relationships, identify intervention strategies by analyzing observational findings, as well as evaluate effectiveness of interventions across disciplines intended to promote/improve child health outcomes.

CLSC 6661  Leadership Dialogues I  2.0 cr.
Dr. C. Robinson - (Fall) Prereq: A degree in health care profession or related field or instructor consent.
This interdisciplinary leadership course focuses on leadership strategies needed for providing family-centered, culturally competent, community-based services for children with special needs and their families.

CLSC 6662  Leadership Dialogues II  2.0 cr.
Dr. C. Robinson - (Spring) Prereq: A degree in health care profession or related field or instructor consent. CLSC 6661.
Leadership Dialogues II builds upon the skills addressed in Leadership Dialogues I with the addition of content that integrates critical and systems thinking and ethical decision making with the leadership and team concepts and skills developed in Leadership Dialogues I.

CLSC 6663  Best Practice in Early Intervention for Families of Children with Autism  2.0 cr.
Dr. C. Robinson - (Fall, Spring, Summer) Prereq: Degree in health care profession or related field or consent of instructor.
Through combination of lectures, on-going case discussions, on-site supervised practicum experience working with families of young children with autism, participants will improve their skills in family-focused home/school-based interventions designed to promote social/communicative skills for children with an autism spectrum disorder.

CLSC 6664  Leadership Dialogues III  1.0 cr.
Dr. C. Robinson - (Fall) Prereq: Degree in health care profession or related field or consent of instructor.
This interdisciplinary leadership course focuses on leadership strategies needed for providing family-centered, culturally competent, community-based services for children with special needs and their families. (Nursing only)

CLSC 6665  Leadership Dialogues IV  1.0 cr.
Dr. C. Robinson - (Spring) Prereq: Degree in health care profession or related field or consent of instructor and CLSC6664.
Leadership Dialogues IV builds upon skills addressed in Leadership Dialogues III with the addition of content that integrates critical and systems thinking and ethical decision making with the leadership and team concepts and skills developed in LD III. (Nursing only)

CLSC 6666  Trans-disciplinary Model of Early Intervention Service Delivery  3.0 cr.
Dr. C. Robinson - (Fall, Spring, Summer) Prereq: Degree in health care profession or related field or consent of instructor. Course Restrictions: Course participants accepted by course instructor approval only.
This course provides instruction about the ENRICH model of community-based, family-driven, trans-disciplinary service delivery and will target service coordination/collaboration throughout Part C supports and services, best practice implementation of intervention strategies, and techniques for transferring out of Part C.

CLSC 6699  Research in Clinical Sciences for Masters Students  Variable cr.
Dr. J. Crapo - (Fall, Spring, Summer).
Class is research in clinical science field planned to have direct relevance to Masters Thesis project where student is working under mentor faculty member's guidance/direction. Classwork may also be associated with preparing for written component of Master's final exam component.
CLSC 6700  Evidence Based Medicine/Health Care  
Dr. J. Crapo - (Spring, Summer)

Course designed to provide basic introduction to the field of clinical science related to evidence-based medicine/health care. Students will learn how to critically appraise literature, evaluate diagnostic test performance/alternative therapies, use/design clinical pathways, implement evidence-based medicine findings in own clinical-practice setting.

CLSC 6800  Introduction to Health Information Technology  
Dr. D. Lezotte - (Spring) Crosslisted: UCD: HLTH 6071

This course is intended as an overview to the dynamic environment of healthcare informatics. The goal of the course is to prepare healthcare professionals to better utilize and manage the emerging communication technologies. A brief introduction to e-health, telehealth, electronic medical records, tele-communications, and bio-informatics is provided.

CLSC 6820  Fundamentals of Health Information Technology Management  
Dr. D. Lezotte - (Fall) Crosslisted: CU Denver HLTH 6072

This course will provide an introduction to management of information technology in healthcare. A description of information processing, the origin, content and evolution of healthcare information systems and the methodologies deployed to acquire and manage information requirements will be discussed.

CLSC 6830  Practicum in Developmental Disabilities  
Dr. C. Robinson - (Spring, Summer, Fall) Prereq: Consent of instructor.

Practicum in developmental disabilities individually designed to give students and post-graduates observational experiences in clinical, teaching, or research service settings and systems for persons with developmental disabilities of all ages.

CLSC 6831  Practicum in Developmental Disabilities II  
Dr. C. Robinson - (Spring) Prereq: Instructor consent and CLSC 6830.

Practicum in developmental disabilities individually designed to give students and post graduates hands-on experiences in clinical, teaching, or research service settings and systems for persons with developmental disabilities of all ages.

CLSC 6890  Introduction to Telehealth/Telemedicine  
Dr. J. Grigsby - (Summer)

This course will examine different Telemedecine/Telehealth options currently available. A primary goal will be for students to evaluate how clinical outcomes and health care education (e.g., patient education and health care provider education) can be improved using new technologies.

CLSC 6950  Masters Thesis  
Dr. J. Crapo - (Fall, Spring, Summer)

Masters thesis work in clinical science.

CLSC 7050  Designing and Implementing Clinical Disease Management Programs  
Dr. J. Crapo - (Spring) Prereq: None but BIOM 6601/6602 or BIOM 6611/6612/6613 are suggested.

This course is designed to introduce participants to the new and broadening field of disease management. Students will learn about the positive/negative aspects of varied approaches in the field. The economic and clinical aspects of disease management will be discussed.

CLSC 7101  Grant Writing I  
Dr. J. Crapo - (Fall, Spring, Summer) Prereq: BIOS 6601-6602, CLSC 7150 or CLSC 7151, PRMD 6626 or BIOS 6648.

This first grant writing course prepares students for subsequent grant submission. Strategies for preparation (including hypothesis generation, experimental design, statistical considerations, potential problems) will be discussed. At end of class, a grant submission will normally occur before grade is assigned.

CLSC 7102  Grant Writing II  
Dr. J. Crapo – (Fall, Spring, Summer) Prereq: CLSC 7101.

Continuation of CLSC-7101. Course prepares students for subsequent grant submission. Strategies for preparation (including hypothesis generation, experimental design, statistical considerations, potential problems) will be discussed. At course end, a K08, R23, or equivalent grant application will be completed for submission.

CLSC 7150  Ethics and Regulation in Human Subjects Review  
Dr. A. Prochazka - (Fall, Spring, Summer)

Course provides overview of the field of ethics in clinical research. Students will learn historical background, current regulations, IRB requirements related to human subjects protection issues. This course requires attendance at IRB sessions for CLSC PhD and Certificate students enrolled.

CLSC 7151  Lectures in Ethics and Regulation in Human Subjects Review  
Dr. A. Prochazka - (Fall, Spring, Summer)

Course will provide overview of the field of ethics in clinical research. It is designed for non-Clinical Science degree students, certificate students, investigators who will be conducting research involving human subjects. Topics include historical background, current regulations, and IRB requirements.
CLSC 7155  Advanced Bioethics  1.0 cr.
Dr. A. Prochážka - (Fall, Spring, Summer) Prereq: CLSC 7150 or CLSC 7151, COMIRB 101, PHSC 7339, instructor consent.
This course will provide an in-depth understanding of advanced bioethics - where the frontiers for ethical clinical decision-making currently exist – and also provide a broad-based overview of all aspects of responsible conduct of research according to NIH standards.

CLSC 7160  Philosophical Foundations of Research Ethics  2.0 cr.
Dr. M. Yarborough - (Spring) Crosslisted: IDPT 7160
This course will examine the philosophical basis for current research ethics practices, address current ethical issues and controversies in biomedical research, and provide students with knowledge and analytical skills to address the ethical dimensions of biomedical research.

CLSC 7200  Clinical Outcomes Assessment  2.0 cr.
Dr. J. Crapo - (Fall, Spring, Summer).
This course provides overview of field of clinical outcomes assessment, prepares student to identify patient risk factors which may influence outcomes, to select outcomes appropriate to use in situation based on critical appraisal of literature in context of research project’s goals/objectives.

CLSC 7300  Scientific Grant Review Process: GCRC Proposals  1.0 cr.
Dr. R. Eckel -  (Fall, Spring) Prereq: BIOM 6601, 6602, or BIOS 6611-6612 and CLSC 7500.
Intended for second year students. Students will understand and participate in the process of scientific review of human subject research protocols submitted to the University of Colorado Denver Anschutz Medical Center’s GCRCs (both Adult and Pediatric GCRCs).

CLSC 7400  Theory and Application of Techniques for the Study of Human Metabolism In Vivo  2.0 cr.
Dr. T. Horton - (Fall) Prereqs: CLSC 7150/7151, BIOS 7151, CLSC 6500/ 6501, PRMD 6626, BIOM 6648.
This advanced clinical investigation course will critically review lab-based techniques and experimental approaches used to study nutrient metabolism in vivo. Students will learn the theory, appropriate application and limitations of these technique/approaches.

CLSC 7450  Biopharmaceutics and Applied Pharmacokinetics  2.0 cr.
Dr. J. Crapo - (Summer). Prereq: Undergrad Biochemistry BIOM 6602.
This advanced pharmacokinetics course will provide working knowledge of drug administration, distribution, metabolism and excretion as well as provide practical clinical working examples of pharmacokinetics (drug clearance and distribution).

CLSC 7500  Practical Application of Molecular and Cell Biology Techniques for the Clinical Investigator  3.0 cr.
Dr. A. Bradford – (Summer)
Designed to teach clinical investigators basic molecular and cellular biology techniques. Format will be hands-on with lectures designed to illustrate significance and clinical application of techniques. Weekly special topics lectures will cover cutting-edge technologies and their application.

CLSC 7650  Guided Research Tutorial – General  Variable cr.
Dr. J. Crapo - (Fall, Spring, Summer)
Students perform research projects during rotations under the direction of a mentor. Required of graduate students in the Clinical Sciences PhD program.

CLSC 7651  Guided Research Tutorial, Pediatric GCRC  2.0 cr.
Dr. F. Accurso - (Spring) Prereq: CLSC 7300 and CLSC 7500.
Students perform Pediatric GCRC research projects during rotations under the direction of Pediatric GCRC faculty member(s).

CLSC 7652  Guided Research Tutorial – Adult GCRC Research  2.0 cr.
Dr. M. Garrity - (Spring) Prereq: CLSC 7300 and CLSC 7500.
Students perform Adult GCRC research projects during rotations under the direction of Adult GCRC faculty member(s).

CLSC 7700  Evidence Based Medicine/Health Care  2.0 cr.
Dr. J. Crapo - (Spring, Summer)
Course designed to provide introduction to field of clinical science related to evidence based medicine/health care. Students will learn to critically appraise literature, evaluate diagnostic test performance/alternative therapies, use/design clinical pathways, implement evidence based medicine findings in clinical practice settings.

CLSC 7890  Research in Clinical Sciences for Doctoral Students  Variable cr.
Dr. J. Crapo - (Fall, Spring, Summer)
Research in clinical science field planned to have direct relevance to PhD dissertation project with doctoral student working under mentor faculty member’s guidance/direction. Class work may be associated with preparing for written component of PhD or oral comprehensive exam component.
**CELL BIOLOGY, STEM CELLS & DEVELOPMENT**

**CLSC 8990  Doctoral Thesis**  Variable cr.
Dr. J. Crapo - (Fall, Spring, Summer) Prereq: Consent of Instructor
Doctoral thesis work in clinical science.

**CSDV 7605  Stem Cells and Development: an Integrated Approach**  3.0 cr.
Dr. L Barlow – (Spring) Prereq: IDPT 7801, IDPT 7802, IDPT 7803
Integrative introductory course, incorporating related fields of Cell Biology/Developmental Biology/Stem Cells/Regenerative Medicine. Through lectures, discussions of current literature, student presentations; enrollees will gain a sophisticated understanding of basic cell biological concepts/experimental approaches underlying our current understanding of developmental/stem cell biology.

**CSDV 7650  Research in Cell Biology, Stem Cells and Development**  Variable cr.
Dr. S. Britt – (Fall, Spring, Summer) Prereq: Consent of Instructor
Research work in Cell Biology, Stem Cells and Development.

**CSDV 7670  Advanced topics in Cell Biology, Stem Cells and Development**  1.0 cr
Dr. L Barlow –  (Fall, Spring) Prereq: IDPT 7801, IDPT 7802, IDPT 7803
Topics covered in course vary from year to year. First topic offering: “Cell Signaling and its regulation in cancer” by Drs. Reyland and Schedin. Second topic offering is “Neural stem cells in development and disease” by Drs. Artinger & Barlow.

**CSDV 7850  Independent Study in Cell Biology, Stem Cells and Development**  Variable cr.
Dr. S. Britt – (Fall, Spring, Summer) Prereq: Consent of Instructor
Independent Study is to allow students to take professional school course for credit or to gain a defined expertise with faculty mentor other than thesis advisor. Consent of faculty member offering the independent study and Program Director required.

**GENETIC COUNSELING**

**GENC 6101  Psychosocial Aspects of Genetic Counseling 1**  2.0 cr.
C. Walton, M.S. –  (Fall) Coreqs: GENC 6105, GENC 6110. Course Restrictions: Matriculated student in Genetic Counseling M.S. Program
This is the first course in a two-semester sequence addressing basic psychosocial and counseling theories, approaches, and resources necessary for the provision of genetic counseling to clients and their families in prenatal, pediatric and adult clinical settings.

**GENC 6102  Psychosocial Aspects of Genetic Counseling 2**  2 cr.
C. Walton, M.S. – (Spring) Prereq: GENC 6101 Coreqs: GENC 6105, GENC 6110. Course Restrictions: Matriculated student in Genetic Counseling M.S. Program
This is the second course in a two-semester sequence addressing basic psychosocial and counseling theories, approaches, and resources necessary for the provision of genetic counseling to clients and their families in prenatal, pediatric and adult clinical settings.

**GENC 6105  Basic Interviewing Skills**  1.0 cr.
C. Walton, M.S. – (Spring) Coreqs: GENC 6101, GENC 6110. Course Restrictions: Matriculated student in Genetic Counseling M.S. Program
This course covers fundamental theories and principles of effective patient/client interviewing in genetic counseling practice. Lectures are combined with hands-on role plays and interviews so that students may gain applied experience and receive feedback to foster skills development throughout course.

**GENC 6110  Topics in Medical Genetics I**  3.0 cr.
C. Walton, M.S. – (Fall) Course Restrictions: Matriculated student in Genetic Counseling M.S. Program
First course in a two-course sequence regarding principles of clinical genetics and genetic counseling, and development of clinical skills used in various medical genetics settings. Fall semester focuses on principles important in pediatric and general genetics settings.
GENC 6111  Topics in Medical Genetics II  2.0 cr.
C. Walton, M.S.  -- (Spring) Prereq: GENC 6110. Course Restrictions: Matriculated student in Genetic Counseling M.S. Program
Second course in two-course sequence regarding principles of clinical genetics and genetic counseling used in various medical genetics settings, and development of clinical skills. Spring semester focuses on prenatal and adult genetics clinic settings.

GENC 6120  Clinical Cytogenetics and Molecular Genetics  3.0 cr.
C. Walton, M.S.  -- (Fall) Coreq: GENC 6121. Course Restrictions: Matriculated student in Genetic Counseling M.S. Program
This course provides integrated instruction regarding human cytogenetic and molecular genetic principles, techniques, and diagnostic testing approaches used in clinical evaluation and risk assessment for genetic disorders/predispositions in prenatal and postnatal patient populations.

GENC 6121  Laboratory in Clinical Cytogenetics and Molecular Genetics  2.0 cr.
C. Walton, M.S.  -- (Fall) Coreq: GENC 6120. Course Restrictions: Matriculated student in Genetic Counseling M.S. Program
Course provides introduction to specific methodologies and interpretation of studies used in diagnostic cytogenetics and molecular genetics laboratories. Principles discussed in the co-requisite clinical cytogenetics and molecular genetics course will be applied through demonstrations, hands-on experiments, discussion of illustrative cases.

GENC 6122  Seminar in Clinical Cytogenetics and Molecular Genetics  1.0 cr.
C. Walton, M.S.  -- (Spring) Prereq: GENC 6120, GENC 6121. Course Restrictions: Matriculated student in Genetic Counseling M.S. Program
Course requires students to apply theories/principles of cytogenetics and molecular genetics to analysis of cases that present in daily operations of diagnostic laboratories and formal critique of current research literature. Additionally, students present formal seminar integrating cytogenetic/molecular genetic principles.

GENC 6130  Cancer Genetics and Genetic Counseling  2.0 cr.
C. Walton, M.S.  -- (Spring) Prereq: GENC 6110, GENC 6120. Course Restrictions: Matriculated student in Genetic Counseling M.S. Program
Course in providing genetic counseling services to clients with or at risk for hereditary cancer predisposition. Topics include clinical oncology, epidemiology, molecular biology of cancer, risk assessment, genetic testing, ethical/legal issues, clinical research considerations, psychosocial impact/support, specific genetic counseling approaches.

GENC 6140  Human Inborn Errors of Metabolism  2.0 cr.
C. Walton, M.S.  -- (Spring) Prereq: GENC 6110. Coreq: GENC 6111. Course Restrictions: Matriculated student in Genetic Counseling M.S. Program
Course provides systematic review of major metabolic disorders, including their clinical phenotypes, diagnosis, and management. Physiological and laboratory testing principles important to understanding these disorders will be reviewed. Psychosocial impact of metabolic disorders and genetic counseling approaches will be discussed.

GENC 6150  Congenital Malformations and Disorders of the Newborn  1.0 cr.
C. Walton, M.S.  -- (Spring) Prereq: GENC 6110. Coreq: GENC 6111. Course Restrictions: Matriculated student in Genetic Counseling M.S. Program
This survey course covers common major malformations and non-metabolic genetic disorders identified by newborn screening programs. Clinical phenotypes, diagnosis, management and etiology are addressed. Psychosocial impact of these conditions and genetic counseling approaches will be discussed.

GENC 6201  Advanced Psychosocial Genetic Counseling  2.0 cr.
C. Walton, M.S.  -- (Fall) Prereq: GENC 6101 and GENC 6102. Course Restrictions: Matriculated student in Genetic Counseling M.S. Program
This course examines advanced genetic counseling techniques as they relate to psychosocial theories, specific client characteristics and the client/counselor dynamic. Critical discussion of core topics and readings and case analysis will be used for instruction.

GENC 6210  Professional Issues in Genetic Counseling I  2.0 cr.
C. Walton, M.S.  -- (Fall) Prereq: GENC 6101, GENC 6105, GENC 6110. Course Restrictions: Second year student in Genetic Counseling M.S. Program.
First course in a two course sequence regarding professional practice issues of master’s level genetic counselors. The fall semester course focuses on professional standards, professional ethics, legal principles and health systems and policy issues relevant to genetic counselors.

GENC 6211  Professional Issues in Genetic Counseling II  2.0 cr.
C. Walton, M.S.  -- (Spring) Prereq: GENC 6210. Course Restrictions: Second year student in Genetic Counseling M.S. Program
Second course in a two course sequence regarding professional practice issues of master’s level genetic counselors. The Spring semester course focuses on disability issues, cultural competency, public health genetics, research methods in genetic counseling, and professional roles.
GENC 6250  Risk Calculation in Genetic Counseling  1.0 cr.
C. Walton, M.S. – (Fall) Prereq: GENC 6110. GENC 6120. Course Restrictions: Matriculated student in Genetic Counseling M.S. Program
This course covers pedigree analysis and risk calculation principles used by genetic counselors in clinical practice.

GENC 6910  Applied General Genetics Clinic I  3.0 cr.
C. Walton, M.S. – (Fall, Spring, Summer) Prereq: GENC 6101. GENC 6105, GENC 6110. Course Restrictions: Matriculated student in Genetic Counseling M.S. Program
This is a clinical rotation for Genetic Counseling M.S. students through a general genetics clinic serving a variety of referral indications. Students will learn and practice case management, history taking, risk assessment, counseling, and client advocacy skills.

GENC 6911  Applied Prenatal Genetics Clinic II  3.0 cr.
C. Walton, M.S. – (Fall, Spring, Summer) Prereq: GENC 6101, GENC 6105, GENC 6110. Course Restrictions: Matriculated student in Genetic Counseling M.S. Program
This is a clinical rotation for genetic counseling students through a prenatal diagnosis and genetics clinic. Students will learn/practice history taking, risk assessment, patient education and genetic counseling, case management, as well as observe prenatal diagnosis and ART procedures.

GENC 6912  Applied Metabolic Genetics Clinic  3.0 cr.
C. Walton, M.S. – (Fall, Spring, Summer) Prereq: GENC 6101, GENC 6105, GENC 6110. Course Restrictions: Matriculated student in Genetic Counseling M.S. Program
This is a clinical rotation for genetic counseling students through a genetics clinic for inborn errors of metabolism. Students will work with patients referred for diagnostic evaluation, medical/nutritional management of specific conditions, follow-up of positive newborn metabolic screening results.

GENC 6913  Applied Regional & Specialties Genetics Clinics  Variable cr.
C. Walton, M.S. – (Fall, Spring, Summer) Prereq: GENC 6101, GENC 6105, GENC 6110. Course Restrictions: Matriculated student in Genetic Counseling M.S. Program
This is a clinical rotation for genetic counseling students through regional outreach genetics clinics and specialty/multidisciplinary clinics serving patients with various genetic conditions.

GENC 6914  Applied Hereditary Cancer Clinic  1.0 cr.
C. Walton, M.S. – (Fall, Spring, Summer) Prereq: GENC 6110, PEDS 6601, PEDS 6602. Course Restrictions: Matriculated student in Genetic Counseling M.S. Program
This is a clinical rotation for genetic counseling students through a hereditary cancer clinic for individuals seeking genetic counseling and testing for genetic cancer predisposition syndromes.

GENC 6915  Applied Adult Medical Genetics Clinic  1.0 cr.
C. Walton, M.S. – (Fall, Spring, Summer) Prereq: GENC 6101, GENC 6105, GENC 6110. Course Restrictions: Matriculated student in Genetic Counseling M.S. Program
This is a clinical rotation for genetic counseling students through a medical genetics clinic and clinical research settings providing diagnosis, management, risk assessment and genetic counseling for adults.

GENC 6919  Applied Medical Genetics Clinic – Clinical Elective  Variable cr.
C. Walton, M.S. – (Fall, Spring, Summer) Prereq: GENC 6101, GENC 6105, GENC 6110. Course Restrictions: Matriculated student in Genetic Counseling M.S. Program
This is an elective clinical rotation for genetic counseling students desiring to arrange training in settings outside of core required clinical rotations or an additional, advanced rotation.

GENC 6950  Masters Thesis  Variable cr.
C. Walton, M.S. – (Fall, Spring, Summer). Course Restrictions: Matriculated student in Genetic Counseling M.S. Program
Masters thesis research to be arranged with prior approval of the Graduate Program in Genetic Counseling.

HUMAN MEDICAL GENETICS

HMGP 7600  Survey of Human Genetics  2.0 cr.
Dr. R. Spritz - (Spring)
Survey of human genetics, including Mendelian and other types of inheritance, chromosomes and cytogenetics, molecular and biochemical basis of genetic disease, quantitative genetics and gene mapping, developmental and cancer genetics, clinical genetics, and genetic screening and prenatal diagnosis.

HMGP 7610  Topics in Human Genetics  1.0 cr.
Dr. R. Spritz - (Fall, Spring) Prereq: Graduate standing.
Two-semester course based on weekly HMGP seminar series. Students meet with speakers and discuss seminar or related topics and arranged readings. Grade based on class participation and required paper and presentation. Required for 1st and 2nd year HMGP students.
<table>
<thead>
<tr>
<th>Course Code</th>
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<th>Credits</th>
<th>Instructor(s)</th>
<th>Prerequisites</th>
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<tbody>
<tr>
<td>HMGP 7620</td>
<td>Genomics</td>
<td>2.0 cr.</td>
<td>Dr. J. Sikela - (Spring)</td>
<td></td>
<td>The goal of this course is to provide a thorough coverage of the field of genomics, including genome sequencing and mapping, bioinformatics, DNA chips, comparative genomics, human DNA variation, medical genomics, pharmacogenomics, and ethical issues arising from genome-based knowledge.</td>
</tr>
<tr>
<td>HMGP 7630</td>
<td>Independent Study in Human Medical Genetics</td>
<td>Variable cr.</td>
<td>Dr. R. Spritz - (Fall, Spring, Summer)</td>
<td></td>
<td>Independent study is intended to permit students to carry out directed reading and discussion with a specific faculty member other than their thesis advisor. Consent of the faculty member offering the independent study and the program director are required.</td>
</tr>
<tr>
<td>HMGP 7650</td>
<td>Research in Human Medical Genetics</td>
<td>Variable cr.</td>
<td>Dr. R. Spritz - (Fall, Spring, Summer)</td>
<td></td>
<td>Research work in human medical genetics.</td>
</tr>
<tr>
<td>HMGP 8990</td>
<td>Doctoral Thesis</td>
<td>Variable cr.</td>
<td>Dr. R. Spritz - (Fall, Spring, Summer)</td>
<td></td>
<td>Doctoral thesis work in human medical genetics.</td>
</tr>
</tbody>
</table>

**IMMUNOLOGY**

<table>
<thead>
<tr>
<th>Course Code</th>
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</tr>
</thead>
<tbody>
<tr>
<td>IMMU 7602</td>
<td>Special Topics in Tumor Immunology</td>
<td>1.0 cr.</td>
<td>Dr. J. Slansky - (Spring)</td>
<td>Prereq: IMMU 7662.</td>
<td>This interactive course, elucidates mechanisms and paradigms relevant to the immune response to tumors. Current research and future directions in the field are discussed. Students are assessed via presentations, participation, and an exam.</td>
</tr>
<tr>
<td>IMMU 7603</td>
<td>Special Topics in Clinical Immunology</td>
<td>1.0 cr.</td>
<td>Dr. R Torres – (Spring)</td>
<td>Prereq: IMMU 7662.</td>
<td>Course covers selected topics (8 total) encompassing a wide range of topics in clinical immunology and will provide insight into immunologically – mediated human diseases and the prospect of new immuno-therapies. Format includes presentation by lecturer, student presentation and class participation.</td>
</tr>
<tr>
<td>IMMU 7604</td>
<td>Special Topics in Signal Transduction in the Immune System</td>
<td>1.0 cr.</td>
<td>Dr. A-L Perraud - (Spring)</td>
<td>Prereq: IMMU 7662, IMMU 7602.</td>
<td>In-depth course, designed primarily for immunology graduate students in their second year, who have completed IMMU 7602. The course covers selected topics (6 in all) encompassing wide range of topics in signal transduction through receptors important in the immune system.</td>
</tr>
<tr>
<td>IMMU 7607</td>
<td>Science as a Profession</td>
<td>1.0 cr.</td>
<td>Dr. P. Marrack - 303-388-1307.  (Fall)</td>
<td></td>
<td>This course discusses ethical issues, conflicts of interest, and regulations for working with humans or animals. It also includes instruction on writing papers and grants, giving effective presentations and advice on finding jobs in academia and industry.</td>
</tr>
<tr>
<td>IMMU 7630</td>
<td>Overview of Immunology</td>
<td>2.0 cr.</td>
<td>Dr. J.J. Cohen - (Fall)</td>
<td></td>
<td>An overview course in immunology for non-Immunology-program graduate students. The focus is human relevance and the practical use of immunology in a variety of fields. Students gain experience applying immunological knowledge to their own area of interest.</td>
</tr>
<tr>
<td>IMMU 7650</td>
<td>Research in Immunology</td>
<td>Variable cr.</td>
<td>Dr. R. Torres – (Fall, Spring, Summer)</td>
<td>Consent of instructor.</td>
<td>Research work in immunology.</td>
</tr>
<tr>
<td>IMMU 7662</td>
<td>Immunology</td>
<td>6.0 cr.</td>
<td>Dr. D. Riches - (Spring)</td>
<td></td>
<td>This course covers the basic principles of the immune system. Included are discussions on (i) the innate and adaptive immune responses, (ii) the molecular and cellular basis of immune specificity and (ii) aspects of clinical immunology.</td>
</tr>
<tr>
<td>IMMU 8990</td>
<td>Doctoral Thesis</td>
<td>Variable cr.</td>
<td>Dr. R. Torres – (Fall, Spring, Summer). Prereq: Consent of instructor</td>
<td></td>
<td>Doctoral thesis work in immunology.</td>
</tr>
</tbody>
</table>
### IDPT 5600  Topics in Biomedical Science and Research  
Dr. S. Flores - (Summer)  
Research internship for undergraduate fellows in Graduate Experiences for Multicultural Students (GEMS) program.

### IDPT 7200  Scientific Writing for Doctoral Students  
Dr. D. Wilkerson - (Spring) Prereq: Must have passed preliminary examination; consent of instructor.  
Scientific writing course for students engaged in research. Focuses on critical thinking, analytical writing, and oral presentation. Taught as a writing workshop, the course emphasizes effective communication with both professional and non-technical audiences.

### IDPT 7300  Technology Transfer and Biotechnology  
Dr. A. Meyers - (Fall, Spring)  
The purpose of this course is to inform students about the process of technology transfer, from academic discovery and invention to commercialization of a product.

### IDPT 7645  MSTP Seminar  
Dr. A. Ribera - (Fall, Spring)  
Designed to expose MSTP and physician scientist students to research programs and opportunities in biomedical sciences at the UCD Anschutz Medical campus and selected departments of the UC Boulder campus.

### IDPT 7646  Tissue Biology and Disease Mechanism  
Dr. J. Hooper - (Spring) Prereq: IDPT 7801, IDPT 7802 & IDPT 7803.  
This course provides an overview of organ systems and disease through 1) a survey of the major systems, including the cellular and molecular mechanisms underlying their function and repair, integrated with 2) common diseases, current therapies, and their mechanistic basis.

### IDPT 7650  Research in Biomedical Sciences  
Dr. D. Bentley - (Fall, Spring, Summer) Prereq: Consent of instructor.  
Research rotation for students in the biomedical sciences Ph.D. program.

### IDPT 7651  Summer Research Rotation  
Dr. A. Gutierrez-Hartmann - (Summer) Prereq: Acceptance into the MST Program and permission of MSTP Director.  
This course is an 8-10 week laboratory rotation experience in an MST training laboratory.

### IDPT 7652  MSTP Advanced Topics  
Dr. A. Ribera - (Fall, Spring) Prereq: IDPT 7801, IDPT 7802, IDPT 7803; consent of instructor.  
This course is designed for students in the MSTP and consists of in-depth small group (1-7 students) sessions that provide in-depth didactic and/or paper readings on subjects related to research rotations or thesis projects.

### IDPT 7655  Thesis Years – Foundations of Doctoring  
Dr. A. Gutierrez-Hartmann - (Fall, Spring) Prereq: All Phase I and II SOM courses.  
This course is intended for MD or MD-PhD students who have successfully completed all coursework for Phases I and II of SOM curriculum, are on leave of absence from SOM and wish to maintain clinical exposure and training during the leave.

### IDPT 7801  Biomedical Sciences Core Course I  
Faculty – (Fall)  
Unified presentation of fundamental principles of biochemistry, cell biology, genetics, and molecular biology. Designed for all first-year basic sciences graduate students.

### IDPT 7802  Biomedical Sciences Core Course II  
Faculty – (Fall)  
Unified presentation of fundamental principles of biochemistry, cell biology, genetics, and molecular biology. Designed for all first-year basic sciences graduate students. Continuation of IDPT 7801.

### IDPT 7803  Biomedical Sciences Core Course III  
Faculty - (Fall)  
Unified presentation of fundamental principles of biochemistry, cell biology, genetics, and molecular biology. Designed for all first-year basic sciences graduate students. Continuation of IDPT 7802.

### IDPT 7805  Case Studies: Molecules to Medicine  
Dr. A. Ribera – (Fall) Crosslisted: IDPT 5002  Prereq: IDPT 7801, IDPT 7802, IDPT 7803 Coreq: IDPT 7801, IDPT 7802, IDPT 7803  
This course is targeted for first year MSTP/Physician-Scientist students. Clinical cases will be presented/discussed by faculty and students to provide clinical context for basic science principles taught in the graduate core courses (IDPT 7801, IDPT 7802 and IDPT 7803).
MICROBIOLOGY

MICB 7650  Research in Microbiology
Dr. J. Schaack - (Fall, Spring, Summer) Prereq: Consent of instructor.
Research work in microbiology.

MICB 7701  Molecular Virology and Pathogenesis
Dr. J. Schaack - (Spring) Prereq: IDPT 7803 or consent of instructor.
Molecular principles of viral pathogenesis. Topics include virus-host interactions, infectious diseases, cancer and virus replication. Students are assessed via in-class presentations, class participation and a written exam.

MICB 7702  Molecular Mechanisms of Bacterial Disease
Dr. R. Gill - (Spring) Prereq: IDPT 7803 or consent of the instructor.
Course will provide an introduction to the biology of pathogenic bacteria and an in-depth discussion of several paradigms of bacterial diseases which will illustrate important concepts and molecular mechanisms of bacterial pathogenesis and evasion of the host defenses.

MICB 7703  Contemporary Topics in Molecular Bacteriology
Dr. R. Gill - (Spring) Prereq: IDPT 7803 or consent of instructor.
Lecture and discussion course. Topics may include: biochemical/genetic control of bacterial cell cycle, growth rate and cellular differentiation signal transduction and responses to environmental stimuli, genetic regulation of microbial pathogenesis. Students assessed via in-class presentations, class participation, and written exam.

MICB 7704  Host Response to Infectious Disease
Dr. L. VanDyk - (Spring) Prereq: IDPT 7803 or consent of instructor.
This interactive graduate course, which provides an overview and specific examples of the host response to infectious disease. Current research and future directions in the field are discussed. Students are assessed via presentations, participation, and an exam.

MICB 7705  Medical Microbiology
Dr. R. Gill - (Fall) Prereq: Consent of instructor.
Course introduces students to certain fundamental features of microorganisms and their ability to cause disease. Topics include: molecular/cellular aspects of bacterial structure; specific properties of pathogenic bacteria; properties of viruses; diseases caused by viral agents. Students assessed by written exams.

MICB 8990  Doctoral Thesis
Dr. J. Schaack - (Fall, Spring, Summer)
Doctoral thesis work in microbiology.

MOLECULAR BIOLOGY

MOLB 7616  Topics in Molecular and Cellular Biology
Dr. J. Kieft – (Spring) Prereq: IDPT 7801, IDPT 7802, IDPT 7803.
Various topics in molecular and cellular biology will be selected every year. Each topic will be studied by a faculty lecture and group presentations by graduate students of research papers.

MOLB 7650  Research in Molecular Biology
Dr. J. Kieft - (Fall, Spring, Summer) Prereq: Consent of the instructor.
Research work in molecular biology.

MOLB 7661  Molecular Biology Seminar
Dr. J. Kieft – (Spring, Summer)
Seminar series provides a forum for the presentation of scientific experiments and information in molecular biology by faculty, postdoctoral fellows, graduate students and invited outside guest speakers.

MOLB 7800  Advanced Topics in Molecular Biology
Dr. J. Kieft - (Spring) Prereq: IDPT 7801, IDPT 7802, IDPT 7803.
Course instructs graduate students how to critically evaluate scientific literature. Course in 4 blocks, topics include nucleic acid, chromatin structure, DNA replication, RNA transcription, RNA processing, cell cycle control, genetics of model organisms. Papers chosen by instructors, presentations by students.

MOLB 8990  Doctoral Thesis in Molecular Biology
Dr. J. Kieft - (Fall, Spring, Summer)
Doctoral thesis work in molecular biology.
### NRSC 7600  Cellular & Molecular Neurobiology  3.0 cr.
Dr. N. Schoppa  -  (Fall)
A comprehensive, in-depth, discussion-based course intended for candidates for the PhD in Neuroscience. Topics include ion channel structure and function, ionic basis of the resting and action potential, and the biochemistry and physiology of direct and indirect synaptic transmission.

### NRSC 7605  Directed Studies in Biomedical Science  8.0 cr.
Dr. D. Restrepo -  (Fall)
Unified presentation of fundamental principles of biochemistry, cell biology, genetics, and molecular biology. Designed for all first-year basic sciences graduate students. Students will take 80% of the lectures in IDPT 7801, IDPT 7802 and IDPT 7803.

### NRSC 7610  Fundamentals of Neurobiology  4.0 cr.
Dr. T. Finger -  (Spring)  Prereq: NRSC 7600 or equivalent at the discretion of the instructors.
This course will provide basic knowledge on the structure and function of the nervous system. The lectures will be supplemented by discussion of primary research literature in neurobiology.

### NRSC 7614  Molecular Basis of Neuro-psychiatric Disorders  2.0 cr.
Dr. S. Leonard -  (Spring)  Prereq: IDPT 7802 or BMGN 5000/CSBI 5001.
This elective, for basic sciences graduate students and medical students, provides a survey of current clinical and molecular aspects of human neuropsychiatric disorders. Both movement disorders and DSMIV diagnoses will be covered. Contact Course Director for a list of topics.

### NRSC 7615  Developmental Neurobiology  3.0 cr.
Dr. A. Ribera -  (Spring)  Prereq: IDPT 5004, NRSC 7600 & NRSC 7610.
This course will cover fundamental principles regarding development of the nervous system. The format of the course will consist of lecture plus reading of primary literature.

### NRSC 7650  Research in Neuroscience  Variable cr.
Dr. D. Restrepo – (Fall, Spring, Summer)  Prereq: Consent of instructor.
Research work in neuroscience.

### NRSC 7661  Grant Proposal Writing Workshop  1.0 cr.
Dr. R. Levinson -  (Spring)  Prereq: NRSC 7610.
Course is practical workshop in grant-writing culminating in a mock review panel including course participants. Students will examine various proposal types/formats, then write their own proposal in the format of NRSA fellowship application. Restricted to students with adequate neuroscience background.

### NRSC 7800  Teaching Neuroscience  1.0 cr.
Dr. D. Restrepo –  (Spring)  Prereq: NRSC 7610 Course Restrictions: Second year students in neuroscience or above. The course will consist of discussion of manuscripts relevant to a specific topic in neuroscience.

### NRSC 8990  Doctoral Thesis  Variable cr.
Dr. D. Restrepo -  (Fall, Spring, Summer)  Prereq: Consent of instructor.
Doctoral thesis work in neuroscience.

### PHCL 7560  Drug Metabolism & Pharmacogenetics I  1.0 cr.
Dr. V. Vasiliou - (Fall) Crosslisted: TXCL 7560.
Course will focus on reactions that exogenous compounds undergo in mammalian systems and mechanisms of these reactions. Enzyme kinetics and unusual (idosyncratic) drug responses that have a hereditary basis and the interrelationship between genes and drug metabolism will be discussed.

### PHCL 7561  Drug Metabolism and Pharmacogenetics II  2.0 cr.
Dr. V. Vasiliou -  (Spring) Crosslisted: TXCL 7561.
Course will focus on reactions that exogenous compounds undergo in mammalian systems and mechanisms of these reactions. Enzyme kinetics and unusual (idosyncratic) drug responses that have a hereditary basis and the interrelationship between genes and drug metabolism will be discussed.
PHCL 7600  Frontiers in Pharmacology  1.0 cr.
Dr. T. Kutateladze – (Fall)
Course is intended to introduce students to cutting-edge pharmacology research and to the range of research opportunities available within the Pharmacology Training Program. Pharmacology Department faculty presentations will focus on cellular signaling, molecular mechanisms of drug actions, structure-based drug design.

PHCL 7605  Ethics in Research  1.0 cr.
Dr. J. Sikela – (Fall)
The Department of Pharmacology in the UCD School of Medicine organizes and offers an interactive course entitled “Ethics in Research”. The course is designed to inform/sensitize students, trainees, faculty to problems of fraud, misconduct and unethical practices in scientific research.

PHCL 7606  Receptors and Cell Signaling  3.0 cr.
Dr. M. Dell’Acqua - (Spring) Prereq: IDPT 7801, IDPT 7802, IDPT 7803.
This elective course presents an in-depth treatment of the role of receptors and signal transduction systems in the regulation of cell functions through faculty-presented lectures and student-led discussions of current literature.

PHCL 7609  Statistical Methods in Pharmacology  2.0 cr.
Dr. J. Sikela – (Spring)
This introductory course is designed to provide students in the biological and health sciences with the knowledge and skills to analyze and interpret data.

PHCL 7610  Survey of Bioinformatics Methods  2.0 cr.
Dr. L. Hunter - (Fall) Crosslisted: BIOI 7710.
What is Bioinformatics and why study it? How is large-scale molecular biology data generated, where and how can researchers gain access to it, and what computational analyses are possible?

PHCL 7611  Bioinformatics I  4.0 cr.
Dr. L. Hunter - (Fall) Crosslisted: BIOI 7711. Prereq: Bioinformatics PhD students or consent of instructor.
What is Bioinformatics and why study it? How is large-scale molecular biology data generated, where and how can researchers gain access to it, what computational analyses are possible and computational techniques for solving inference problems in molecular biology?

PHCL 7612  Bioinformatics II  4.0 cr.
Dr. L. Hunter - (Spring) Crosslisted: BIOI 7712. Prereq: BIOI 7711
Inference problems and computational techniques for molecular biology, with emphasis on machine learning approaches. Use of computational induction techniques focused on information extraction from biomedical literature, inference of biochemical networks from high-throughput data, and prediction of protein function.

PHCL 7614  Membrane Biophysics  2.0 cr.
Dr. T. Benke - (Spring) Prereq: NRSC 7614. Prereq: NRSC 7600 or equivalent
Lectures and homework on ionic mechanisms underlying cellular excitability, especially in the central nervous system. Descriptive mathematics, pharmacology and molecular biology will be stressed. An introductory application to real-life problems using the NEURON simulation environment will be taught.

PHCL 7620  Principles of Pharmacology  6.0 cr.
Dr. J. Sikela – (Spring) Prereq: IDPT 7801, IDPT 7802, IDPT 7803. Consent of course directors.
Lectures are provided in the general areas of pharmacokinetics, receptor theory, structure-activity relationships, drug metabolism, basic pharmacological mechanisms with a particular emphasis on systems such as the nervous system and cardiovascular system, as well as cancer and microbial chemotherapy.

PHCL 7622  Principles of Pharmacology for MSTP Students  1.0 cr.
Dr. J. Sikela – (Spring) Prereq: IDPT 7801, IDPT 7802, IDPT 7803, PHCL 6000, or new equivalent. Consent of course directors required.
Lectures are provided in the general areas of pharmacokinetics, receptor theory, structure-activity relationships, drug metabolism, and basic pharmacological mechanisms with a particular emphasis on systems such as the nervous system and cardiovascular system, as well as cancer and microbial chemotherapy.

PHCL 7650  Research in Pharmacology  Variable cr.
Dr. J. Sikela – (Fall, Spring, Summer) Prereq: Consent of instructor. Research work in pharmacology.

PHCL 7660  Advanced Topics in Pharmacology  1.0 cr.
Dr. D. Port – (Fall, Spring, Summer) Prereq: PHCL 7600, PHCL 7605, PHCL 7609, PHCL 7620, PHCL 7650. Coreq: IDPT 7801, IDPT 7802, IDPT 7803
An in-depth discussion-oriented course for advanced students focusing each term on specific topics associated with pharmacological studies including new insights about drug addiction; alcohol actions and alcoholism memory models and LTP; rational approaches to cancer chemotherapy; cardiovascular physiology.
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<td>PHCL 8990</td>
<td>Doctoral Thesis</td>
<td>Variable cr.</td>
<td>Dr. J. Sikela – (Fall, Spring, Summer)</td>
<td>Prereq: Consent of instructor. Doctoral thesis work in pharmacology.</td>
</tr>
<tr>
<td>PHSC 7310</td>
<td>Fundamentals of Pharmaceutical Sciences</td>
<td>3.0 cr.</td>
<td>Dr. D. Bain - (Fall)</td>
<td>Crosslisted TXCL 7310. Core course explores key aspects of Pharmaceutical Sciences. Major themes will focus on macromolecular interactions, pharmaceutics, pharmacokinetics, pharmacodynamics, apoptosis, signal transduction and immunology. Critical thinking and problem solving skills will be emphasized via lectures, discussions, and computer-based data analyses.</td>
</tr>
<tr>
<td>PHSC 7325</td>
<td>Pharmaceutical Development: Evaluating the External Environment</td>
<td>2.0 cr.</td>
<td>Dr. R. Valuck - (Summer)</td>
<td>Includes: epidemiology/classification of disease; trends in health care costs/expenditures; organization/financing of health care; pharmaceutical industry characteristics; drug product marketing and introduction to pharmaceutical outcomes/economics.</td>
</tr>
<tr>
<td>PHSC 7330</td>
<td>Issues in Drug Development</td>
<td>2.0 cr.</td>
<td>Dr. J. Carpenter - (Spring)</td>
<td>Prereq: Consent of instructor. A multidisciplinary approach to educating students about all aspects of drug development including federal drug regulatory issues, natural product screening, combinatorial chemistry, high throughput screening, in vitro and in vivo pharmacology models, preclinical/clinical toxicology, dosage forms, and clinical trials design.</td>
</tr>
<tr>
<td>PHSC 7339</td>
<td>Human Subjects Ethics</td>
<td>1.0 cr.</td>
<td>Dr. A. Prochazka - (Spring)</td>
<td>An overview of the field of ethics in clinical research. It is designed for non-Clinical Science degree students and certificate students and investigators who will be conducting research involving human subjects. Topics include the historical background and current regulations.</td>
</tr>
<tr>
<td>PHSC 7345</td>
<td>Principles of Drug Delivery</td>
<td>2.0 cr.</td>
<td>Dr. T. Anchordoquy - (Spring)</td>
<td>This class is taught jointly by faculty in the School of Pharmacy and the School of Medicine. The course will introduce students to the basic principles that are fundamental to drug delivery with a special emphasis on targeted drug delivery.</td>
</tr>
<tr>
<td>PHSC 7350</td>
<td>Proteins</td>
<td>3.0 cr.</td>
<td>Dr. R. Hodges – (Spring)</td>
<td>Crosslisted: BMST 7350. Chemical and physical basis for protein structure, folding, function and stability; role of molecular dynamics, use of molecular simulations in investigations of protein-ligand and protein interactions; methods and principles of protein/peptide purification and enzyme catalysis, including electron transfer and mutagenesis.</td>
</tr>
<tr>
<td>PHSC 7354</td>
<td>Structural Analysis of Bio-molecules I</td>
<td>2.0 cr.</td>
<td>Dr. R. Hodges – (Fall)</td>
<td>Crosslisted: BMST 7354. This course describes the fundamentals of spectroscopic methods used to study protein structure and function. These techniques include optical methods (CD spectroscopy, fluorescence and absorbance), vibrational methods (IR and ESR), analytical ultracentrifugation, mass spectrometry, calorimetry, light scattering and Biacore analysis.</td>
</tr>
<tr>
<td>PHSC 7400</td>
<td>Ethical Issues in Toxicology &amp; Pharmaceutical Sciences</td>
<td>1.0 cr.</td>
<td>Dr. R. Agarwal - (Fall)</td>
<td>Crosslisted: TXCL 7400. The purpose of this course is to expose students to ethical issues in the fields of toxicology and pharmaceutical sciences. Emphasis will be placed on research conduct, animal use, and other timely issues relevant in these fields.</td>
</tr>
<tr>
<td>PHSC 7450</td>
<td>Protein Chemistry 2</td>
<td>2.0 cr.</td>
<td>Dr. J. Carpenter - (Spring)</td>
<td>Crosslisted: BMST 7450. This course represents methods/principles of protein/peptide purification and enzyme catalysis, including electron transfer/mutagenesis. In addition, the investigation of protein and enzyme structure/function, the role of molecular dynamics, and use of molecular stimulations in investigations of protein-ligand interactions will be presented.</td>
</tr>
<tr>
<td>PHSC 7454</td>
<td>Structural Analysis of Bio-molecules 2</td>
<td>2.0 cr.</td>
<td>Dr. R. Hodges – (Spring)</td>
<td>Crosslisted: BMST 7454. Methods and strategies for determination of the primary and 3-dimensional structures of biologically important molecules. Crystallography, nuclear magnetic resonance spectroscopy and mass spectrometry will be taught in structural determination of proteins, nucleic acids complex carbohydrates, and lipid molecules.</td>
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</tbody>
</table>
PHSC 7530  Cancer: Experimental and Medical Aspects  2.0 cr.
Dr. A. Malkinson - (Spring)  Prereq: Consent of course coordinator.
This is an interactive seminar course on recent topics in cancer biology. Topics include biochemical/morphological description of tumors and tumor behavior, such as metastasis and angiogenesis, and tumor development. This course also covers aspects of carcinogenesis: mechanisms, modulation, testing/epidemiology, chemotherapy.

PHSC 7561  Pharmacology of Anticancer Agents  2.0 cr.
Dr. G Eckhardt - (Fall)
This is a course that will examine the principles behind the pharmacological treatment of cancer. Focus will be on the agents currently used in the clinic as well as developing therapies. Mechanistic aspects and therapeutic strategies will be emphasized.

PHSC 7568  Seminar in the Pharmaceutical Sciences  Variable cr.
Dr. T. Anchordoquy - (Fall, Spring)
Discusses current literature and research in the pharmaceutical sciences. The only revision for this course is that the maximum credit hours possible will be three.

PHSC 75650 Research Rotation Pharmaceutical Sciences  Variable cr.
Dr. T. Anchordoquy - (Fall, Spring, Summer)  Prereq: Consent of instructor.
Research work in pharmaceutical sciences.

PHSC 7561  Pharmaceutical Biotechnology  3.0 cr.
Dr. T. Randolph - (Fall)  Crosslisted: CU Boulder CHEN 5900.
Course covers role of bioengineering in development of pharmaceutical biotechnology products. In particular, the student will learn to apply solution thermodynamics as well as mass and heat transfer concepts to the stabilization/formulation of macromolecules and production of drug delivery systems.

PHSC 7562  Principles of Medicinal Chemistry  2.0 cr.
Dr. J. Ruth - (Fall)  Prereq: One-year organic chemistry with lab one semester of biochemistry.
This survey course covers organic chemistry of drugs with respect to drug action: mechanism of action, structure-activity relationships, metabolism, dosage forms and rational drug design. Course encompasses traditional therapeutic categories of drugs as well as selected topics from current literature.

PHSC 7563  Protein Formulation  2.0 cr.
Dr. J. Carpenter - (Spring)
This course will provide instruction in rational design of stable therapeutic protein formulations with emphasis on the practical and mechanistic aspects of developing aqueous solution and freeze-dried formulations. Students will read papers from the literature and participate in critical discussions.

PHSC 7564  Advanced Topics in Pharmacology  Variable cr.
Dr. T. Anchordoquy - (Fall, Spring)  Course Restrictions: Permission from Instructor/Program Director.
Considers special topic of current interest in pharmacology. Course may be repeated for credit with the instructor’s approval.

PHSC 7567  Advanced Topics in Medicinal Chemistry  Variable cr.
Dr. J. Ruth - (Fall, Spring)  Prereq: Consent of instructor.
Considers special topic of current interest in medicinal chemistry. Course may be repeated for credit with the instructor’s approval.

PHSC 7568  Advanced Topics in Pharmaceutical Sciences  Variable cr.
Dr. T. Anchordoquy - (Fall, Spring)  Prereq: Consent of instructor.
Considers special topic of current interest in pharmaceutical sciences. Course may be repeated for credit with instructor’s approval.

PHSC 7566  Membrane Dynamics  2.0 cr.
Dr. T. Anchordoquy - (Spring)
This course will cover the basics of membrane bioenergetics in biological systems. The physical properties of membranes are described based on studies with liposomes, and the course further explores the use of liposomes as drug delivery vehicles.

PHSC 7531  Case Studies in Biotechnology  2.0 cr.
Dr. D. Kompala – (Spring)  Crosslisted: CU Boulder CHEN 5831.
Course is required of all graduate students in interdisciplinary graduate biotechnology certificate program and those supported on NIH training grants. Reviews molecular genetics, product synthesis/purification, economics, intellectual property, and business planning. Working in teams, students present a biotechnology product plan.

PHSC 8990  Doctoral Thesis  Variable cr.
Dr. T. Anchordoquy - (Fall, Spring, Summer)
Doctoral thesis work in pharmaceutical sciences.
PHYSIOLOGY

PHSL 7650  Research in Physiology and Biophysics
Dr. S. Vijayaraghavan – (Fall, Spring, Summer) Prereq: Consent of instructor.
Research work in Physiology and Biophysics

PHSL 7840  Advanced Topics in Cell Signaling
Dr. N. Schoppa – (Fall, Spring, Summer) Prereq: Consent of instructor.
Students select topics of interest in the area of cell signaling and receive one-on-one instruction from expert faculty. Each one-credit topic will be taught for 5 weeks. Course work will include reading and discussing papers, as well as practical exercises.

PHSL 8990  Doctoral Thesis
Dr. S. Vijayaraghavan – (Fall, Spring, Summer) Prereq: Consent of instructor.
Doctoral thesis work in physiology.

PREVENTIVE MEDICINE

PRMD 6600  Introduction to Public Health
Dr. K. Kennedy – (Summer)
This course examines the historical and conceptual bases of public health, the key issues and problems faced by the public health system, and the tools available for the protection and enhancement of the public's health.

PRMD 6602  Healthy People 2010
Dr. C. DiGuiseppi – (Summer)
The student will understand the development of Healthy People 2010, its organization and content, compare ways that different states use Healthy People 2010 and critically analyze a focus area or objective.

PRMD 6603  Health Care Systems
Dr. P. Barton – (Fall)
The first of a two-semester sequence to introduce students to U.S. health care system from organizational/political/social/service delivery perspective. Students introduced to basic components of current health care system, basic economic principles as applied to selected aspects of health care system.

PRMD 6604  Health Care Economics
Dr. D. Milne – (Spring) Prereq: PRMD 6603.
This course is a sequel to PRMD 6603 focusing on health care financing and economic issues. A microeconomics framework, including issues of supply, demand, market structure, market failure, price and output are discussed as they apply to the health sector.

PRMD 6605  Health Policy
J. Glazner – (Spring) Prereq: PRMD 6603
The focus of this course will be the analysis of important U.S. health policy issues, such as access, cost and quality. Analytic concepts, approaches and frameworks will be used to explore specific significant health policy issues.

PRMD 6606  Community Health Practice: Administration Policies and Politics
Faculty – (Fall, Spring) Prereq: PRMD 6603 and PRMD 6604 or PRMD 6603 and PRMD 6605.
*Offered as 1.0 credit hour Fall term and 2.0 credit hour Spring term for a total of 3.0 credit hours.
Course designed to present technical, policy and administrative issues within context of operational activities of community and public health agencies. Introduction to basic management skills is included. Each student will participate in community agency problem solving or needs assessment activity.

PRMD 6607  Current Legal Issues in Health Care
D. Matthew – (Spring)
This elective will explore American health care policy. Particular emphasis will be placed on the provider’s role in addressing issues of justice in health care delivery and the legal tools available to policy makers.

PRMD 6608  Ethical and Legal Issues in Public Health, Health Policy, Epidemiology
Dr. J. Glover – (Spring)
Course explores ethical/legal dimensions of various topics of concern in areas of public health, health policy, epidemiology. Topics: health care reform, medical indigence, screening/genetic screening, epidemiological research, QUALYS and health outcomes research, public health/individual rights, public health in developing countries.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
<th>Instructor(s)</th>
<th>Prerequisite(s)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRMD 6609</td>
<td>Cost Benefit and Effectiveness in Health</td>
<td>3.0 cr.</td>
<td>Dr. S. Eisert</td>
<td>(Summer)</td>
<td>This is an intermediate level course on the theory, methods and application of economic evaluation in the health context. Students are required to conduct an economic evaluation by collecting data and information related to a health program of interest.</td>
</tr>
<tr>
<td>PRMD 6610</td>
<td>Social and Community Factors in Health</td>
<td>3.0 cr.</td>
<td>Dr. J. Switt</td>
<td>(Spring)</td>
<td>Course considers the social/community factors affecting health status, seeking and providing health care. Cross-cultural concepts of health and disease are reviewed. The measurement of selected social/psychological factors, including demographic, socioeconomic and life style indicators and use in epidemiological studies emphasized.</td>
</tr>
<tr>
<td>PRMD 6611</td>
<td>Use of Theory in Public Health Research and Practice</td>
<td>3.0 cr.</td>
<td>Dr. L. Crane</td>
<td>(Fall)</td>
<td>Course will cover basic theories, concepts, models from a range of social/behavioral disciplines used in public health research and practice. Applications of theoretical frameworks in specifying multiple targets and levels of intervention to public health research will be addressed.</td>
</tr>
<tr>
<td>PRMD 6612</td>
<td>Program Evaluation</td>
<td>2.0 cr.</td>
<td>Dr. L. Crane</td>
<td>(Spring)</td>
<td>Provides students with understanding of role of systematic evaluation in assessing effectiveness of public health programs/policies. Includes theoretical concepts and methodology. Topics to be examined include: needs assessment, process and outcome evaluation, qualitative/quantitative research designs, and data collection methodologies.</td>
</tr>
<tr>
<td>PRMD 6614</td>
<td>Occupational and Environmental Health</td>
<td>3.0 cr.</td>
<td>Drs. J. Litt</td>
<td>(Spring)</td>
<td>Prereq: PRMD 6630 Presents an overview of information needed to assess the relationship between the environment, workplace and health. Topics include facets of industrial hygiene, air and water pollution, radiation monitoring, toxicology studies, clinical occupational medicine, and biologic monitoring. The emphasis throughout is on the epidemiologic link between exposure and health with a discussion of study methods and interpretation specific to the areas.</td>
</tr>
<tr>
<td>PRMD 6615</td>
<td>Topics in Occupational/Environmental Medicine: A Problem-based Approach</td>
<td>2-3 cr.</td>
<td>Dr. K. Mueller</td>
<td>(Fall, Spring, Summer) Prereq: PRMD 6614, PRMD 6630 Students presented with series of problems that focus on industries/environmental problems in Denver metropolitan area. The solutions to the problems involve visiting industries, consulting with experts, and learning the principles and practice of toxicology, industrial hygiene, and occupational epidemiology.</td>
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<tr>
<td>PRMD 6617</td>
<td>Introduction to Health Services Research</td>
<td>2.0 cr.</td>
<td>Dr. P. Barton</td>
<td>(Fall)</td>
<td>Prereq: PRMD 6603 and 6604. Course provides overview of the discipline of health services research (HSR); it is designed for individuals who have completed MSPH prerequisites. Course focuses on four major HSR dimensions and will dedicate two class sessions to each: organizing, financing, delivery, outcomes.</td>
</tr>
<tr>
<td>PRMD 6619</td>
<td>Perspectives in International Health</td>
<td>2.0 cr.</td>
<td>Dr. P. Barton</td>
<td>(Fall)</td>
<td>Review of health care issues and the ways in which various national health care systems are organized or have evolved to deal with these issues. The role of governmental, multi-governmental, philanthropic, voluntary, industrial organizations in international health area are examined.</td>
</tr>
<tr>
<td>PRMD 6620</td>
<td>Survey Research</td>
<td>2.0 cr.</td>
<td>Dr. L. Crane</td>
<td>(Fall)</td>
<td>Course examines survey research methodology, including the use of face-to-face, telephone and self-administered questionnaires. Topics include: methods of data collection; developing and ordering questions; formatting; determining reliability and validity; methods of sampling; implementation; maximizing response rate; data issues; and reporting.</td>
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<tr>
<td>PRMD 6621</td>
<td>Maternal and Child Health</td>
<td>1.0 cr.</td>
<td>Dr. C. DiGuiseppi</td>
<td>(Fall)</td>
<td>This course introduces students to several current issues in maternal and child health such as electronic fetal monitoring, well child care, accidents, adolescent pregnancy, child abuse, chronic illness and child advocacy.</td>
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<tr>
<td>PRMD 6622</td>
<td>Cancer Prevention and Control</td>
<td>2.0 cr.</td>
<td>Dr. T. Byers</td>
<td>(Summer)</td>
<td>Course provides overview of preventable cancers, epidemiology and contributing factors. Phases of cancer control research and appropriate methodologies are discussed. Basic principles of intervention development are reviewed. Psychosocial issues related to cancer are discussed. Students research topic related to course.</td>
</tr>
</tbody>
</table>
**PRMD 6624  Community Diagnosis**  
J. Baxter – (Fall) Prereq: PRMD 6630.  
Community diagnosis provides the means of assessing the social, economic, physical, and environmental status of a community, as these factors affect the health of its population. Students will learn to use national and local demographic and health data resources.

**PRMD 6625  Methods in Health Services Research**  
Drs. A. Beck– (Spring) Prereq: BIOM 6601, BIOM 6680, PRMD 6603, PRMD 6617, PRMD 6626, PRMD 6630 Coreq: PRMD 6631.  
This course provides an overview of research methods in health services. This class is designed for individuals who have completed the MSPH prerequisites and who have taken or are taking PRMD 6631.

**PRMD 6626  Research Methods in Community Health**  
Dr. D. Lezotte – (Spring) Prereq: BIOS 6601, PRMD 6630  
Research methods topics include: cohort and case control studies, clinical trials, medical care evaluation, and survey research. Lectures and discussions cover problem statement and hypothesis formulation, study design, data collection and analysis.

**PRMD 6628  Seminar Series in Preventive Medicine**  
Dr. C. DiGuiseppi – (Fall, Spring)  
Seminar series designed to present recent important findings in preventive medicine/biometrics. Different topics presented twice a month (except summer months) in departmental grand rounds and seminar presentations by Department of Preventive Medicine and Biometrics faculty and invited guest speakers.

**PRMD 6629  Clinical Epidemiology: Studies in Diagnosis, Prognosis and Treatment**  
Dr. T. Byers – (Summer)  
This course provides an overview of the design, conduct, and appraisal of clinical research. Topics include choice of study design, issues in randomized trials (bias, measurement, validity), assessment of diagnostic tests, functional status measurement, meta-analysis, and use of questionnaires.

**PRMD 6630  Epidemiology**  
Dr. R. Hamman – (Fall)  
Offers introduction to approaches/methods used in describing the natural history of disease in the community and for locating clues to the causes of disease, and analytical epidemiology used in study of disease etiology and critical review of the medical literature.

**PRMD 6631  Analytical Epidemiology**  
Dr. J. Hokanson – (Fall) Prereq: PRMD 6630, BIOS 6601.  
Course emphasizes analytical foundations of epidemiology and its application to etiologic studies and public health practice. Topics include determining rates of disease occurrence, assessing exposure disease relationships, stratified analysis, measurement error and sampling. Final project requires analysis/interpretation of epidemiologic data.

**PRMD 6632  Advanced Epidemiologic Methods**  
Dr. J. Marshall - (Spring) Prereq: PRMD 6630, PRMD 6631, BIOS 6601  
This is a course on epidemiologic methods designed to improve the student’s ability to conduct and interpret epidemiologic studies including intervention studies, cohort studies and case control studies.

**PRMD 6635  Epidemiology of Communicable Disease**  
Dr. C. Nyquist - (Spring) Prereq: PRMD 6630.  
This course considers the epidemiology of selected communicable diseases. Methods for their prevention and control, and assessment of these methods will be treated primarily through case studies.

**PRMD 6636  Chronic Disease Epidemiology**  
Dr. D. Dabelea - (Spring) Prereq: PRMD 6630.  
The major chronic diseases of Western countries will be reviewed including heart disease, cancer, stroke, diabetes, neurological diseases, and selected other conditions. Factual information about epidemiology of these diseases will be provided with the discussion of methodological issues which arise.

**PRMD 6637  Injury Epidemiology and Control**  
Dr. C. DiGuiseppi - (Fall)  
Major causes of injuries in U.S. will be reviewed. This includes motor vehicle traffic injuries, other unintentional injuries (including occupational injuries) and intentional injuries. The major components of injury control will be discussed – acute care, biomechanics, epidemiology and surveillance, prevention/rehabilitation.
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<tr>
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<tr>
<td>PRMD 6638</td>
<td>Cardiovascular Epidemiology</td>
<td>1.0 cr.</td>
<td>Dr. J. Hokanson - (Fall)</td>
<td>PRMD 6630; Prerequisite provides practical introduction to current concepts, research methods, unanswered questions in epidemiology of coronary artery disease, stroke/peripheral artery disease. It prepares students for independent work in academic/nonacademic settings in the area of cardiovascular disease surveillance, etiology and outcome research.</td>
</tr>
<tr>
<td>PRMD 6639</td>
<td>Genetic and Molecular Epidemiology</td>
<td>2.0 cr.</td>
<td>Dr. J. Norris – (Spring)</td>
<td>PRMD 6630, BIOS 6601 This course reviews basic genetic principles and teaches epidemiologic methods employed in the investigation of the genetic susceptibility to chronic disease. This course also covers the methods, uses, and limitations of modern molecular technologies applied to epidemiological problems.</td>
</tr>
<tr>
<td>PRMD 6641</td>
<td>Public Health and the Aging Population</td>
<td>2.0 cr.</td>
<td>Dr. L. Bryant – (Spring)</td>
<td>This course will introduce students to 1) factors across the social-ecological spectrum that will affect population patterns of health, disease, and risk factors in older adults; and 2) appropriate responses by public health, aging services and the research community.</td>
</tr>
<tr>
<td>PRMD 6643</td>
<td>The Nuclear West</td>
<td>2.0 cr.</td>
<td>Dr. J. Ruttenber – (Fall)</td>
<td>Crosslisted: UCB - ENVS 5100/JOUR 5871 Course Restrictions: Permission of Instructor. This interdisciplinary seminar examines historical nuclear issues in the West from perspectives of natural science, epidemiology and the news media. Topic for each session will be addressed from a matrix of issues, as described in the following course schedule.</td>
</tr>
<tr>
<td>PRMD 6645</td>
<td>Critical Reading Seminar</td>
<td>1.0 cr.</td>
<td>Dr. R. Hamman – (Spring)</td>
<td>Prerequisite: PRMD 6630, PRMD 6626; BIOS 6601 Through informal reading/discussion of current articles in medical literature, students will present journal summaries, lead small group discussion of an article, identify potential sources of bias in design and conduct of published research, and suggest alternate research designs/analyses.</td>
</tr>
<tr>
<td>PRMD 6646</td>
<td>Methods for Systematic Reviews</td>
<td>1.0 cr.</td>
<td>Dr. C. DiGuiseppi - (Spring)</td>
<td>Prerequisite: PRMD 6630, or permission of instructor. Introduces the rationale and methods off conducting systematic reviews to evaluate health and community interventions. Topics will include designing systematic reviews, study identification and selection, publication bias, assessing study quality, meta-analysis, exploring heterogeneity, and reporting results through the Cochrane Library.</td>
</tr>
<tr>
<td>PRMD 6651</td>
<td>Research Paper</td>
<td>1-4 crs.</td>
<td>Dr. P. Barton - (Fall, Spring, Summer)</td>
<td>Prerequisite: PRMD 6626, PRMD 6630, BIOS 6601, BIOS 6680. Independent research project is required of all students. It is anticipated that all projects will involve the analysis of quantitative data. Students have option of completing written report in the form of either a thesis or a publishable research paper.</td>
</tr>
<tr>
<td>PRMD 6670</td>
<td>Topics in Preventive Medicine</td>
<td>1-3 crs.</td>
<td>Dr. P. Barton - (Fall, Spring, Summer)</td>
<td>Special interest areas of current preventive medicine research and controversy are analyzed in depth. The course format is lecture and discussion or seminar.</td>
</tr>
<tr>
<td>PRMD 6680</td>
<td>Research in Preventive Medicine</td>
<td>1-3 crs.</td>
<td>Dr. P. Barton - (Fall, Spring, Summer)</td>
<td>Prerequisite: PRMD 6626, PRMD 6630, BIOS 6601, BIOS 6680. Resources of the department are available to those students who elect to carry out research in chosen topics. A faculty member will provide guidance throughout the project.</td>
</tr>
<tr>
<td>PRMD 6910</td>
<td>Field Practicum</td>
<td>1-3 crs.</td>
<td>Dr. P. Barton - (Fall, Spring, Summer)</td>
<td>Prerequisite: PRMD 6626, PRMD 6630, BIOS 6601, BIOS 6680. Students may work in state and local health departments or industry. Students can participate in ongoing studies in chronic and infectious disease epidemiology, environmental health and community health planning, or develop their own project in conjunction with a preceptor.</td>
</tr>
<tr>
<td>PRMD 6950</td>
<td>Master's Thesis</td>
<td>1-3 crs.</td>
<td>Dr. P. Barton - (Fall, Spring, Summer)</td>
<td>Prerequisite: PRMD 6626, PRMD 6630, BIOS 6601, BIOS 6680. An independent research project is required of all students as a final demonstration of acquired skills and knowledge. Students have the option of completing the written report in the form of either a thesis or a publishable research paper.</td>
</tr>
<tr>
<td>PRMD 7600</td>
<td>Topics in Epidemiology and Biometrics</td>
<td>1-4 crs.</td>
<td>Dr. D. Dabelea – (Fall, Spring, Summer) Consent of instructor is required. Special interest areas of current epidemiologic research and biomedicine are analyzed in depth.</td>
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**PRMD 7850  Independent Study in Bioethics, Medical Humanities or Health Law**  
Dr. M.Yarborough - (Fall, Spring, Summer) Consent of instructor is required.  
Course is designed to meet the needs of students interested in conducting advanced studies of issues and topics in bioethics, medical humanities, or health law. Students will work under the direction of the course director on a specific research topic.

**PRMD 7911  Epidemiologic Field Methods**  
Dr. D. Dabelea - (Fall, Spring, Summer) Prereq. PRMD 6626, PRMD 6630, PRMD 6631, PRMD 6632, BIOS 6611, BIOS 6612. Course Restrictions: Permission of instructor is required.  
Course instructs students how to prepare quality, successful, research grant applications. It offers students an opportunity to familiarize themselves with the grant writing and review process, enhance critical thinking skills, formulate hypothesis and interpret results, improve quality of scientific writing.

**PRMD 7912  Developing a Research Grant**  
Dr. D. Dabelea – (Fall) Prereq: PRMD 6611, PRMD 6612, PRMD 6626, PRMD 6630, PRMD 6631, PRMD 6632, BIOS 6611, BIOS 6612. Course Restrictions: Enrollment in Epidemiology PhD Program or Permission of the instructor.  
Course instructs students how to prepare quality, successful, research grant applications. It offers students an opportunity to familiarize themselves with the grant writing and review process, enhance critical thinking skills, formulate hypothesis and interpret results, improve quality of scientific writing.

**PRMD 7915  Analytic Methods in Epidemiology**  
Dr. D. Dabelea – (Fall, Spring, Summer) Prereq: PRMD 6626, PRMD 6630, PRMD 6631, PRMD 6632, BIOS 6611, BIOS 6612. Course Restrictions: Permission of instructor is required.  
Advanced treatment of techniques in the analysis of epidemiological studies, including longitudinal, time-dependent, survival data, causality, missing data, etc. Students will analyze data sets currently on file using contemporary epidemiological methods.

**PRMD 8990  Doctoral Thesis**  
Dr. D. Dabelea - (Fall, Spring, Summer) Prereq: Consent of the Instructor  
Doctoral thesis work Epidemiology

**REPRODUCTIVE SCIENCES**

**RPSC 7650  Research in Reproductive Science**  
Dr. M.C. Neville - (Fall, Spring, Summer) Prereq: Consent of the Instructor  
Research work in Reproductive Science

**RPSC 7652  Special Topics in Reproductive Science**  
Dr. M.C. Neville - (Fall, Spring, Summer) Prereq: Enrollment in PhD Program in Graduate School  
This course provides instruction in a specialized area of Reproductive Science. Course content and the extent of the course varies from year to year.

**RPSC 7801  Molecular Mechanisms of Reproductive Endocrinology and Metabolism**  
Dr. M.C. Neville - (Spring) Prereq: Core Courses IDPT 7800, IDPT 7801, IDPT 7802  
Restrictions: UCDAMC graduate students; others by permission of the Course Director  
Endocrine systems will be covered from the molecule to the systems level. Pituitary secretions actions/secretion, regulation of water, ion, calcium balance, regulation of metabolism including insulin secretion/action will be discussed, the context of normal physiology, the mechanisms of endocrine dysfunction.

**RPSC 7802  Reproductive Development**  
Dr. M.C. Neville - (Spring) Prereq: Core Courses IDPT 7800, IDPT 7801, IDPT 7802  
Focus of course is developmental biology of reproductive systems. Sex determination, fertilization, implantation, development of placenta and mammary glands will be covered in lectures and discussions of current literature. Course is designed to follow Endocrinology and Metabolism in Spring semester.

**RPSC 8990  Doctoral Thesis**  
Dr. M.C. Neville - (Fall, Spring, Summer) Prereq: Consent of the Instructor  
Doctoral thesis work in Reproductive Science

**TOXICOLOGY**

**TXCL 7310  Fundamentals of Pharmaceutical Sciences**  
Dr. D. Petersen - (Fall) Crosslisted: PHSC 7310  
This core course explores key aspects of Pharmaceutical Sciences. Major themes will focus on macromolecular interactions, pharmaceutics, pharmacokinetics, pharmacodynamics, apoptosis, signal transduction and immunology. Critical thinking and problem solving skills will be emphasized via lectures discussions, and computer-based data analyses.
TXCL 7322  Molecular and Target Organ Toxicology  3.0 cr.
Dr. D. Ross - (Fall) Prereq: Discussion with and consent of Instructor.
The course is designed to provide a foundation in molecular mechanisms of toxicity. Biochemical mechanisms underlying toxicity will be analyzed and integrated with discussions of reactive metabolites, oxidative stress, signal transduction, cell death and organ specific toxicity.

TXCL 7323  Environmental and Target Organ Toxicology  2.0 cr.
Dr. D. Petersen - (Spring) Prereq: Discussion with and consent of Instructor.
The course is designed to provide a fundamental understanding of environmental-related toxicants (e.g. solvents, pesticides, metals, radiation) with emphases on the molecular mechanisms underlying their organ specific toxicity and on risk assessment.

TXCL 7325  Current Topics in Toxicology Research  2.0 cr.
Dr. C. Ju - (Fall, Spring)
This is a mandatory 2-credit hour course for Toxicology program graduate students. Each student is expected to lead one discussion per year, papers discussed will be authored by the upcoming Toxicology seminar series speaker. Grade given after Spring semester.

TXCL 7326  Current Concepts & Comprehensive Review of Physiology  4.0 cr.
Dr. R. Radcliffe - (Spring)
This course will consist of a comprehensive overview of the physiology of nervous cardiovascular, respiratory, renal, gastrointestinal, endocrine, and reproductive systems. Graduate students enrolled in this course will receive assignments concerning organ-specific, cell-cell interactions in overall physiology.

TXCL 7330  Issues in Drug Development  2.0 cr.
Dr. J. Carpenter - (Fall) Prereq: Consent of Instructor
Multidisciplinary approach to educating students about aspects of drug development including federal drug regulatory issues, natural product screening, combinatorial chemistry, high throughput screening, in vitro and in vivo pharmacology models, drug metabolism, preclinical/clinical toxicology, dosage forms and clinical trials design.

TXCL 7400  Ethical Issues in Toxicology and Pharmaceutical Sciences  1.0 cr.
Dr. R. Agarwal - (Fall)
The purpose of this course is to expose students to ethical issues in the fields of Toxicology and Pharmaceutical Sciences. Emphasis will be placed on research conduct, animal use, and other timely issues relevant in these fields.

TXCL 7475  Advanced Topics in Toxicology  Variable cr.
Dr. V. Vasiou - (Fall) Prereq: Consent of instructor/Program Director.
Considers special topic of current interest in toxicology. Course may be repeated for credit with instructor's consent.

TXCL 7555  Evidenced-Based Toxicology  2.0 cr.
P. Guzelian - (Fall, Spring)
Students perform literature research to address actual ongoing consultations made to a private practice of environmental toxicology. Questions of occupational/environmental safety, product safety, regulatory compliance, personal injury, medical monitoring are addressed by writing conclusions formed using principles of Evidence-Based Toxicology.

TXCL 7561  Drug Metabolism & Pharmacogenetics  2.0 cr.
Dr. V. Vasiou - (Spring) Crosslisted: PHCL 7561
This course will focus on the reactions that the exogenous compounds undergo in mammalian systems and the mechanisms of these reactions. Enzyme kinetics and unusual (idiosyncratic) drug responses that have a hereditary basis will be discussed.

TXCL 7562  Analytical Basis of Forensic Toxicology  2.0 cr.
Dr. V. Vasiou - (Fall) Prereq: One year organic chemistry with lab
Principles of analysis of abused drugs in biological samples within framework of legal requirements. Considerations include type of sample, routes/kinetics of metabolism, analytical methodology, possible interferences of physiological impairment. Agents include ethanol, cocaine, cannabinoids, amphetamines, opiates, phencyclidine, and anabolic steroids.

TXCL 7564  Environmental Risk Assessment and Applied Toxicology  2.0 cr.
Dr. D. Pyatt - (Spring)
Provides students with experience in risk assessment, environmental toxicology for public health and regulatory decision making. Topics include comprehensive human health risk assessments, baseline/probabilistic statistics, ecological risk assessment activities associated with emergency action, medical monitoring, role toxicology plays in courtroom.
<table>
<thead>
<tr>
<th>Course Code</th>
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<th>Credits</th>
<th>Instructor(s)</th>
<th>Term(s)</th>
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<tbody>
<tr>
<td>TXCL 7575</td>
<td>Drug Development for the Toxicologist</td>
<td>2.0 cr.</td>
<td>Dr. V. Vasiliou</td>
<td>(Spring) Prereq TXCL 7322</td>
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<td>Course will provide an understanding of regulatory obligations required for submitting an N.D.A. as well as discussions related to additional corporate roles including activities for in vivo study conduct &amp; due diligence review for licensing opportunities.</td>
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<td>TXCL 7650</td>
<td>Research Rotation in Toxicology</td>
<td>Variable cr.</td>
<td>Dr. V. Vasiliou</td>
<td>(Fall, Spring, Summer)</td>
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<td>Research work in toxicology.</td>
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<tr>
<td>TXCL 7655</td>
<td>Pharmacokinetics and Toxicokinetics</td>
<td>2.0 cr.</td>
<td>Dr. V. Vasiliou</td>
<td>(Fall)</td>
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<td>This is a course on the pharmacokinetic analysis of xenobiotics. Absorption, distribution, metabolism and elimination of drugs will be discussed with focus on mathematical descriptions.</td>
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<tr>
<td>TXCL 7670</td>
<td>Methods in Molecular Toxicology</td>
<td>2.0 cr.</td>
<td>Dr. C. Franklin</td>
<td>(Spring)</td>
</tr>
<tr>
<td></td>
<td>This is a laboratory-based course that involves the carrying out of biochemical, molecular and analytical based experiments in the laboratories of toxicology faculty. Requirements for each laboratory assignment will be at the discretion of the instructor for that section.</td>
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<tr>
<td>TXCL 8990</td>
<td>Doctoral Thesis</td>
<td>Variable cr.</td>
<td>Dr. V. Vasiliou</td>
<td>(Fall, Spring, Summer)</td>
</tr>
<tr>
<td></td>
<td>Doctoral thesis work in toxicology.</td>
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<td>Prereq: Consent of the instructor.</td>
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</tbody>
</table>

University of Colorado Denver Health Sciences Programs 2008-2009
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SCHOOL OF MEDICINE

PHASE I – REQUIRED CURRICULUM FALL SEMESTER 2008

IDPT 5000  Foundations Doctoring I  2.0 cr.
Course Director, Wendy Madigosky, M.D. Course Coordinator, Tina Roquemore, 303-724-6421.
The course is designed to expose students to basic clinical skills necessary for physicians. Each week, students spend one afternoon either learning communication/physical exam skills/professionalism on campus or practicing their clinical skills with a preceptor off campus.

IDPT 5001  Human Body  7.0 cr.
Co-Course Directors, Michael Carry, Ph.D., 303-315-8949 and Michael Kelley, M.D., 303-724-2066.
This course covers the anatomy and embryology of the back, extremities, trunk, head and neck. Students will dissect human cadavers and study computer generated cross-sections and radiological images. Clinical case discussions will be integrated with physical exam material.

IDPT 5002  Molecules to Medicine  8.0 cr.
Course Director, Robert Low, M.D., Ph.D., 303-724-4307
Molecules to medicine is an integrated approach to cell biology, biochemistry, molecular biology and human genetics presented in a context that emphasizes clinical issues.

IDPT 5015  Basic Card Life Support  0.5 cr.
Course Director, Todd Larabee, M.D., 720-848-6777. Course Coordinator, Cathy Maciel, 720-848-6777.
Course will be taught along American Heart Association (AHA) guidelines utilizing lecture, video, demonstrations on mannequins and a practice session. Students will read the required text prior to course, pass a written examination, and demonstrate performance skills essential to BCLS.

IDPT 5090  Mentored Scholarship  1.0 cr.
Course Director, Richard L. Byyny, M.D. Course Coordinator, Melody Johnson, 303-724-7731.
A four year requirement for students to pursue and complete a mentored scholarly project and a capstone presentation. Project can be in one of the following thematic areas: basic and clinical research; epidemiology and public health; humanities and social sciences.

PHASE I – REQUIRED CURRICULUM SPRING SEMESTER 2009

IDPT 5000  Foundations Doctoring I  2.0 cr./sem.
Course is a continuation of the fall semester course.

IDPT 5003  Blood and Lymph  4.0 cr.
Co-Course Directors, Tim Garrington, M.D., 720-777-8365 and Jill Slansonky, Ph.D., 303-398-1887.
Blood and Lymph covers the basic and clinical concepts underlying immunology, hematology, rheumatology, and malignancies of the blood. Histology, genetics, biochemistry, and ethical issues are integrated into the course concepts. Contact hours are divided equally between lecture and discussion groups.

IDPT 5004  Disease and Defense  5.0 cr.
Co-Course Directors, Ronald E. Gill, Ph.D., 303-724-4230 and Marsha Anderson, M.D., 720-777-6877.
Course material covers principles of biometrics, pharmacology, pathology and infectious disease. Topics include mechanisms of tissue damage and repair. Dermatology is presented as an “Organ System”, including structural and function, pathology, pathophysiology and pharmacology.

IDPT 5005  Cardiovascular/Pul/Renal  9.5 cr.
Co-Course Directors, Bruce Wallace, Ph.D., 303-724-2068 and John Weil, M.D. 303-315-4471.
Course is an interdisciplinary approach to the cardiovascular, pulmonary, and renal systems, including anatomy, histology, physiology, pathophysiology, pathology, pharmacology, and development. Emphasis is on how the major organs work together to regulate blood pressure and fluid, electrolyte, and acid-base balance.

IDPT 5090  Mentored Scholarship  1.0 cr.
Course Director, Richard L. Byyny, M.D. Course Coordinator, Melody Johnson, 303-724-7731.
A continuation of course begun in fall semester.

PRMD 5000  Ethics Hlth Profession I  1.0 cr.
Course Director, Jackie Glover, Ph.D., 303-724-3992.
Required two-part course in ethics taught with dental, medical, nursing, pharmacy, physical therapy and physician assistant students. This course includes basic knowledge and skills in ethical theory and reasoning, professional ethics, and inter-professional approaches to health care decision making.

### PHASE II – REQUIRED CURRICULUM FALL SEMESTER 2008

**IDPT 6000  Foundations Doctoring II**  
Course Director, Wendy Madigosky, M.D. Course Coordinator, Tina Roquemore, 303-724-6421.  
This course is the second year of the longitudinal Foundations of Doctoring curriculum. Each week, students spend one afternoon either learning communication/physical exam skills/professionalism on campus or practicing their clinical skills with a preceptor off campus.  
2.0 cr./sem.

**IDPT 6001  Nervous System**  
Co-Course Directors, Tom French, Ph.D., 303-724-3387 and Steven Ojemann, M.D., 303-724-2285.  
Course covers the gross and microscopic anatomy of the nervous system, basic neurobiology and neurophysiology, pharmacology, neuropathology, and basic neurologic and psychiatric examination skills. Emphasis is on the relationship between basic processes and functional systems to clinical phenomena and behavior.  
7.5 cr.

**IDPT 6002  Digest/Endo/Metaboli Sys**  
Co-Course Directors, Robin Michaels, Ph.D., 303-724-3402, Virginia Sarapura, M.D., 303-724-3931 and Daniel Bessesen, M.D., 303-436-5910.  
This interdisciplinary course integrates clinical and basic science topics related to the normal function and diseases of the gastrointestinal and endocrine systems. The biochemistry and physiology of nutrient metabolism in health and disease will also be covered.  
9.5 cr.

**IDPT 6003  Life Cycle**  
Co-Course Directors, Robert Shikes, M.D., 303-315-5410 and Sonya Erickson, M.D., 303-724-2038.  
Course provides an interdisciplinary approach to the normal biology and pathobiology of the male and female reproductive systems, reproduction and pregnancy, the fetus, newborn and child, aging, and end of life. Clinical cases and physical examination will be integrated throughout.  
5.0 cr.

**IDPT 6004  Infectious Disease**  
Co-Course Directors, David Barton, Ph.D., 303-724-4215 and Edward Janoff, M.D., 303-315-7233  
This course integrates microbiology, infectious diseases, and antimicrobial pharmacology. Content covers pathogenic microorganisms (bacteria, viruses, fungi, and parasites), host-pathogen interactions, microbial virulence determinants, host immune responses, signs and symptoms of disease presentation, epidemiology, laboratory diagnosis, prevention (vaccines) and therapy (antimicrobials).  
4.5 cr.

**PRMD 6000  Ethics Hlth Profession 2**  
Course Director, Jackie Glover, Ph.D., 303-724-3992.  
Required two-part course in ethics taught with dental, medical, nursing, pharmacy, physical therapy and physician assistant students. This course includes basic knowledge and skills in ethical theory and reasoning, professional ethics, and inter-professional approaches to health care decision making.  
1.0 cr.

### PHASE II – REQUIRED CURRICULUM FOR SPRING SEMESTER 2009

**IDPT 6000  Foundations Doctoring II**  
Course Director, Wendy Madigosky, M.D. Course Coordinator, Tina Roquemore, 303-724-6421.  
This course is the second year of the longitudinal Foundations of Doctoring curriculum. Each week, students spend one afternoon either learning communication/physical exam skills/professionalism on campus or practicing their clinical skills with a preceptor off campus.  
2.0 cr./sem.

**IDPT 6003  Life Cycle**  
Co-Course Directors, Robert Shikes, M.D., 303-315-5410 and Sonya Erickson, M.D., 303-724-2038.  
Course provides an interdisciplinary approach to the normal biology and pathobiology of the male and female reproductive systems, reproduction and pregnancy, the fetus, newborn and child, aging, and end of life. Clinical cases and physical examination will be integrated throughout.  
5.0 cr.

**IDPT 6004  Infectious Disease**  
Co-Course Directors, David Barton, Ph.D., 303-724-4215 and Edward Janoff, M.D., 303-315-7233  
This course integrates microbiology, infectious diseases, and antimicrobial pharmacology. Content covers pathogenic microorganisms (bacteria, viruses, fungi, and parasites), host-pathogen interactions, microbial virulence determinants, host immune responses, signs and symptoms of disease presentation, epidemiology, laboratory diagnosis, prevention (vaccines) and therapy (antimicrobials).  
4.5 cr.

**IDPT 6015  BCLS Update**  
Course Director, Todd Larabee, M.D., 720-848-6777. Course Coordinator, Cathy Maciel, 720-848-6777.  
0.5 cr.
A re-certification. Principles of BCLS will be taught along AHA guidelines utilizing lecture, video, demonstrations on mannequins, and practice sessions. Students will read required text prior to course, pass a written examination, and demonstrate performance skills essential to BCLS.

**IDPT 6090 Mentored Scholarship 1.0 cr.**
Course Director, Richard L. Byyny, M.D. Course Coordinator, Melody Johnson, 303-724-7731.
A four year requirement for students to pursue and complete a mentored scholarly project and a capstone presentation. Project can be in one of the following thematic areas: basic research, clinical research, epidemiology and public health, humanities and social sciences.

**ELECTIVES FOR PHASE 1 AND 2 STUDENTS 2008-2009**

**DERMATOLOGY ELECTIVE**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Terms</th>
<th>Credits</th>
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<tbody>
<tr>
<td>DERM 6660</td>
<td>Career Elective in DERM</td>
<td>All terms</td>
<td>1.0 crs</td>
</tr>
</tbody>
</table>

Course Director, Cory Dunnick, M.D. Course Coordinator, Kemp Weston, 720-848-0510.
This course is designed to provide an introduction into the field of dermatology. Students will shadow a dermatologist in clinic to get an idea of the scope of practice in dermatology which encompasses medical dermatology, surgery and dermatopathology.

**FAMILY MEDICINE ELECTIVES**

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<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Terms</th>
<th>Credits</th>
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<tbody>
<tr>
<td>FMMD 6410</td>
<td>Spanish Immersion</td>
<td>Summer sem.</td>
<td>4.0 crs</td>
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Attend accredited Spanish language school in a Spanish speaking country. Participation is 20 hrs/week of language class AND either a medical Spanish course 5 hrs/week OR volunteer family medicine or general practice clinical activity 2 half days/week.

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<th>Course Code</th>
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<th>Terms</th>
<th>Credits</th>
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<tbody>
<tr>
<td>FMMD 6622</td>
<td>Intro FMMD Research</td>
<td>Summer sem.</td>
<td>Var. cr.</td>
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</table>

Max: 12
Course Director, David Gaspar, M.D., 303-724-0974. Course Coordinator, Cynthia Villanueva, 303-724-0974.
Provides students the skills in designing a primary care research project. Covers constructing research question, measurement of variables, reviewing literature, research design, reporting results and medical writing. This will serve as a foundation for the 4th year required scholarly project.

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<th>Course Code</th>
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<tbody>
<tr>
<td>FMMD 6624</td>
<td>Hlthcare Poor/Homeless</td>
<td>Fall and Spring sem.</td>
<td>1.0 cr.</td>
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</table>

Max: 4
Course Director, Allegra Melillo, M.D. Course Coordinator, Cynthia Villanueva, 303-724-0974.
This course introduces students to healthcare of Denver’s poor and homeless. Students will participate in patient care at the Stout Street Clinic on six Saturday mornings throughout the school year. Participation in two additional volunteer outreach activities is also required.

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<th>Course Code</th>
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<th>Terms</th>
<th>Credits</th>
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<tbody>
<tr>
<td>FMMD 6628</td>
<td>Rural Track Elective</td>
<td>Fall and Spring sem.</td>
<td>1.0 cr.</td>
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</table>

Course Director, Mark Deutchman, M.D. Course Coordinator, Mary Jo Bush, 303-724-9753
Prerequisite: Student must have been accepted in the Rural Track or have course director approval to add.
Course Restrictions: A two-semester course, students must complete fall and spring semesters.
The course goal is to increase the number of students who eventually enter, and remain, in practice in rural Colorado. The track provides students with, mentorship, additional knowledge, broad skills and rural socialization experiences throughout the 4 years of school.

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<tr>
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<th>Credits</th>
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<tbody>
<tr>
<td>FMMD 6629</td>
<td>SABES Spanish Immersion</td>
<td>Fall and Spring sem.</td>
<td>1.0 cr.</td>
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</tbody>
</table>

Course Director, Mark Deutchman, M.D.
Course requirements: a two-semester elective. Students enrolled for fall semester will be automatically enrolled for spring semester. A one time fee of $30.00.
“SABES” Spanish Immersion takes a student/mentor approach to immersing students at all levels of Spanish acquisition to fortify Spanish Language ability. Course covers grammar and usage, emphasis is on constructing meaningful medical Spanish sentences and understanding appropriate responses.

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<th>Terms</th>
<th>Credits</th>
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<tbody>
<tr>
<td>FMMD 6630</td>
<td>Summer Rural Track</td>
<td>Summer Sem</td>
<td>8.0 crs</td>
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University of Colorado Denver Health Sciences Programs 2008-2009
In this 4-week clinical experience students will live in a preceptor’s community and participate in the professional and community life of a rural physician. Priority is given to students who have completed Rural Track elective course FMMD 6628.

INTERDEPARTMENTAL ELECTIVES

**IDPT 6627  Directed Study Basic Sci**
All sems. Var. cr.
Co-Course Directors, Maureen Garrity, Ph.D., and Lorraine Adams; Course Coordinator, Becky Gossert, 303-724-6404. Prerequisite: Course Director approval required to add.
This course provides an opportunity for medical students to further develop and refine their knowledge of the basic sciences. Course director approval required.

**IDPT 6628 Nutrition and Cancer**
Spring sem. 1.0 cr.
Max: 30/Min: 8
Course Director, Richard F. Bakemeier, M.D., 303-724-3158; Course Coordinator, Connie Bair, 303-724-3158.
Human nutrition as it relates to clinical/biological aspects of cancer. Introduction to modern concepts of cancer development and treatment through seminars, patient presentations, lectures, discussion groups. Analyze your diet and what modifications seem likely to reduce the risks of cancer.

**IDPT 6629 Maternity Matching**
Fall and Spring sem. 1.0 cr. per term Max: 15
Course Director, Lorraine Dugoff, M.D., 303-724-2044. Course Coordinator, Mike Baca, 303-724-2031.
Course requirements: Students enrolled for fall semester will automatically be enrolled for spring semester.
A two-semester course. Students observe the continuity of care for a pregnant woman and get exposure to those issues surrounding pregnancy. Goal is to improve the knowledge about the stages of pregnancy and patient education.

**IDPT 6630Summer Preceptor Exp**
Summer sem. 1.0 cr.
Restrictions: Available summer semester only.
Course Director, Wendy Madigosky, M.D. Course Coordinator, Tina Roquemore, 303-724-6421
The Summer Preceptorship is a clinical elective designed for students between their first and second year of medical school. It may take place in the hospital or in a clinic one afternoon or morning a week during the summer semester.

**IDPT 6631 LEAD**
Spring sem. 2.0 cr.
Course Director, Shale Wong, M.D., 720-777-2811. Course Coordinator, Karen Mellis, 303-724-2259.
The course will include monthly seminars and be divided into four thematic sections. Seminar speakers are primarily engaged in leadership/advocacy work in health care. The themes will be further explored by case-based, small group sessions. Elective required for LEADS scholars.

**IDPT 6632 Health Care-Public Policy**
Fall and Spr sem. 1.0 cr.
Course Director, Gary VanderArk, M.D., 303-724-2287. Course Coordinator, Lauren Buckles, 303-724-2302.
Health care in public policy, work with course director and Colorado Medical Society to collaboratively research current issues in health policy. Students gain an expanded awareness of current issues in healthcare policy and an appreciation for relationship between medicine/politics.

**IDPT 6633 Intro to Women’s Health**
Fall (08 only) and Spr sem. 1.0 cr.
Course Director, Sonya Erickson, M.D. Course Coordinator, Melissa Lorenzo, 303-724-2038.
Prerequisite: Course Director Approval required too add course.
The first in a series, this elective will introduce participants to Women’s Health as a field of study and clinical care. Assigned reading will frame discussions devoted to gender-based public health issues, women as research subjects, gender and communication.

**IDPT 6634 Women’s Primary Care**
Fall sem. 1.0 cr. Min: 5/Max: 8
Course Director, Sonya Erickson, M.D. Course Coordinator, Melissa Lorenzo, 303-724-2038.
Prerequisite: IDPT 6632. Restrictions: Must be phase II student. Permission of instructor.
This course is the second in a series of electives being offered for the women’s health track at the school of medicine. Primary care issues and literature search strategies will be emphasized.

**IDPT 6635 Global Hlth Studies (US)**
Summer sem. 10.0 crs
Course Director, Andrew Kestler, M.D. Course Coordinator, Cathy Maciel, 720-848-6767.
Course Restrictions: Must be enrolled in the Global Health Track.
Students and their faculty preceptors will develop a global health project focused on research, education, or community health service. After their project with a global health organization, students will provide a written report and an oral presentation of their project.

**IDPT 6668 Global Hlth Study Aboard**  
Summer sem.  
10.0 crs

Course Director, Andrew Kestler, M.D.  
Course Coordinator, Cathy Maciel, 720-848-6767.

Course Restrictions: Must be enrolled in the Global Health Track.

Prior to travel, students and their faculty preceptors will develop a global health project focused on international research, education, or community health service. After their stay abroad, students will provide a written report and an oral presentation of their project.

**IDPT 6669 Global Health Seminar**  
Spring sem.  
1.0 cr.

Course Director, Andrew Kestler, M.D., Course Coordinator, Cathy Maciel, 303-848-6767.

Course Restrictions: Course director approval required to add course.

This course, integral to the global health track, will help students design and implement their global health project. Sessions will address ethics of the international work, basics of project design and review board approval, and travel health and safety practicalities.

### MEDICINE ELECTIVES

**MED 6621 Geriatric Medicine**  
Fall and Spring sem.  
2.0 cr.  
Max: 2

Course Director, Susan Bray-Hall, M.D., 303-393-2822.  
Course Coordinator, Lynn Blair, 303-393-2822.

Aging in America, exposure to geriatric health care ranging from prevention among healthy community dwelling elderly to hospice care for terminally ill in nursing homes. Students contact the Course Coordinator, Lynn Blair two weeks prior to starting the elective.

**MED 6623 Intro Biomedical Researc**  
Fall and Spring sems.  
Var. cr.

Course Director, John Repine, M.D., 303-315-8262.

Independent study with a mentor of your choice. A short paper on a subject chosen by the student is usually required. Dr. Repine will meet with students interested in a career in academic medicine and/or research.

**MED 6626 Molecular Biology Cancer**  
Fall sem.  
1.0 cr.  
Max: 15/Min: 4

Course Director, Christopher Hogan, Ph.D., 303-724-3113.  
Director, Bob Gemmill, Ph.D., 303-724-3582.  
Course Coordinator, Everlyn Sandoval, 303-724-3872.

Provides an overview of molecular events that occur in the cell that relate to the origins of neoplasia. Provides students the ability to understand/ interpret literature and an appreciation of how biology impinges on the practical treatment of cancer.

**MED 6627 Art in Med; Med in Art**  
Spring sem.  
1.0 cr.  
Max: 12/Min: 4

Course Director, Henry Claman, M.D., 303-315-6978.  
Course Coordinator, Angela Peterson, 303-315-0773.

Included are The Arts in Medicine lectures, weekly critical reading in the anthology, On Doctoring, other texts and pictures in Medical Humanities. Also ‘Museum Rounds’ at the Denver Art Museum, and a required piece of reflective writing, poetry and prose.

**MED 6628 CAM/Alternative Medicine**  
Spring sem.  
1.0 cr.  
Max: 30 SOM

Course Director, Lisa Corbin, M.D., 720-848-1225  
Course Coordinator, Vicki Melton, 303-724-1790.

With 50% of the US population using CAM, physicians need education about its rational use. Through discussions and experiential sessions; therapies such as acupuncture, chiropractic, and herbs are presented. Students may spend a half-day at the Center for Integrative Medicine.

**MED 6629 The Healer’s Art**  
Fall and Spr sem.  
1.0 cr.


Course Restrictions: Phase I students only.

The Healer’s Art is a 15-hour elective that engages students in a discovery model focusing on the meaning of physicianhood and the practice of medicine. The course facilitates students in clarifying, strengthening, and making a personal commitment to medicine.

**MED 6630 Clinica Tepeyac**  
All semesters  
1.0 cr.

Course Director, Richard H. Miranda, M.D., 303-839-6253.

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Clinica Tepeyac is a community clinic located in North Denver serving the health care needs of a largely immigrant, monolingual Spanish-speaking population. Participating students will provide basic health-care services, and promote health awareness under the guidance of University faculty.

### Orthopaedic Electives

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Term</th>
<th>Credits</th>
<th>Max:</th>
<th>Min:</th>
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<tbody>
<tr>
<td>ORTH 6620</td>
<td>Intro to Orthopedics</td>
<td>Spring</td>
<td>1.0 cr.</td>
<td>30</td>
<td>10</td>
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<td>Course Director, Jennifer Wolf, M.D., 303-724-2968. Course Coordinator, Sarah Van Wyke, 303-724-2961.</td>
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<td>Course covers an overview of the breadth of orthopaedic surgery. Topics include musculoskeletal oncology, reconstructive surgery, trauma, sports medicine, spine surgery, upper extremity surgery, and primary care orthopaedics.</td>
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### Otolaryngology Elective

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<tr>
<th>Course Code</th>
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<th>Term</th>
<th>Credits</th>
<th>Max:</th>
<th>Min:</th>
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<tbody>
<tr>
<td>OTOL 6660</td>
<td>Career Elective in OTOL</td>
<td>All terms</td>
<td>1.0 crs.</td>
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<td>Course Director, Peggy E. Kelley, M.D.  Course Coordinator, Alicia L. Gore, 303-724-1957.</td>
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<td></td>
<td>The Career Elective in Otolaryngology – Head &amp; Neck Surgery will provide diverse sub-specialty clinical and operative exposure with physician specialists who diagnose and treat disorders of the ears, nose, throat and related structures of the head and neck.</td>
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### Pediatric Electives

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<th>Max:</th>
<th>Min:</th>
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<tbody>
<tr>
<td>PED 6622</td>
<td>Diabetes Mellitus</td>
<td>Summer</td>
<td>3.0 cr.</td>
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<td></td>
<td>Course Director, Paul Wadwa, M.D., 303-724-6719.</td>
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<td>The student will spend 1 week at diabetes camp. One will learn about diabetes as well as children. Before and after camp, time will be spent at the Barbara Davis Center clinic. Clinical research projects can be developed if interested.</td>
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<tr>
<td>PED 6623</td>
<td>Warren Village Clinic</td>
<td>All sems.</td>
<td>1.0 cr.</td>
<td>20</td>
<td>8</td>
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<td></td>
<td>Course Director, Stephanie Stevens, M.D.  Course Coordinator, 303-699-6200.</td>
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<td>An opportunity for Phase I and II students to participate in a pediatric clinic. Students will provide well-care and minor acute illness care for children. Students are required to attend an orientation and three to four Wednesday evening clinics.</td>
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### Psychiatry Electives

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<th>Term</th>
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<th>Max:</th>
<th>Min:</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSCH 6620</td>
<td>PSCH in Great Literature</td>
<td>Fall and Spr sems.</td>
<td>2.0 cr.</td>
<td>15</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Course Director, Robert Davies, M.D., 303-724-2229. Course Coordinator, Jennifer White, 303-724-7401.</td>
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<td>Writers, the first thinkers to understand the &quot;whole man,&quot; took into account his unconscious. We’ll illustrate this as reflected in normal development and personality formation, symbolization, fantasy and psychopathology using the characters and texts from Great Literature. Tuesday evenings.</td>
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<tr>
<td>PSCH 6626</td>
<td>Intro to Emergency Psch</td>
<td>Spring</td>
<td>1.0 cr.</td>
<td>20</td>
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<td>Course Director, Michael Weissberg, M.D.  Course Coordinator, Jennifer White, 303-724-7401.</td>
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<td>Students will learn basics of emergency evaluation with particular focus on suicide, homicide, child abuse, spouse abuse, and incest. Students will see emergency psychiatric consultations with residents, staff or faculty.</td>
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<tr>
<td>PSCH 6629</td>
<td>Medical Hypnosis</td>
<td>Spring</td>
<td>1.0 cr.</td>
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<td>Course Director, Steve Allen, M.D., 303-741-0239. Course Coordinator, Jennifer White, 303-724-7401.</td>
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<td>Medical hypnosis has a wide application in primary care settings, but most primary care practitioners are unfamiliar with its use. Therefore, this course will teach students the basics of trance induction and its application for pain control, insomnia and relaxation.</td>
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**PSCH 6632 Denver CARES Elective**  
**Fall and Spring sems. 1.0 crs**
Course Director, Robert House, M.D.
In this course students will gain confidence in performing basic H&P skills while interacting with acutely ill patients in a detox facility. Requirements include volunteering a minimum of two shifts, as well as attending the orientation and debriefing sessions.

**SURGERY ELECTIVES**

**SURG 6624**  Intro Wilderness Med  
**Fall sem. 1.0 cr. Max: 45/Min: 10**
Course Director, Kelly Bookman, M.D., 720-848-6777. Assistant Course Directors, Drs. Todd Larabee and Barbara Blok. Course Coordinator, Cathy Maciel, 720-848-6777.
Course consists of a lecture series and one four hour weekend outdoor exercise. An emphasis on basic science topics with pathophysiology of wilderness medicine problems. Students participate in skill stations and perform various field medicine and evacuation procedures.

**SURG 6625**  Global Health: Issues  
**Fall sem. 1.0 cr. Max: 50/Min: 10**
Course Director, Andrew Kestler, M.D., 720-848-6777. Course Coordinator, Cathy Maciel, 720-848-6777.
This course, required for Global Health Track students, gives a broad overview of important issues in global health, e.g., the HIV epidemic, maternal-child health, humanitarian assistance, clean water and sanitation. Pass/fail based on attendance and final project (1-pager).

**SURG 6626**  Pre-Hospital Medicine  
**Fall and Spring sems. 1.0 cr. Max: 20/Min: 10**
Course Director, Christopher B. Colwell, M.D. Course Coordinator, Linda Anderson, 303-436-6029.
Enrollment restricted to EMIG (Emergency Medicine Interest Group) only. Students required to participate in 1 ten hour ride along shift with Denver Paramedic Division 911 ambulances, attend required Introductory Lecture on pre-hospital medicine and submit 1 evaluation from ambulance ride.

**SURG 6627**  Intro Emer Med & Trauma  
**Spring sem. 1.0 cr. Max: 50/Min: 10**
Introduction to life-threatening conditions fundamental to emergency medicine. Focuses on the essentials of stabilization, rapid diagnosis, and acute management. Weekly lectures given by faculty from UCHSC and Denver Health. Pass-fail based on attendance with an optional write-up for honors.

**SURG 6660 Career Elective In UROL**  
1.0 crs
Course Director, Robert E. Donohue, M.D. Course Coordinator, Tasha Mitchell, 303-724-2712.
Students attend urology outpatient clinics; attend patient interview with resident; once instructed will complete a directed physical exam; audit patient counseling sessions; and discuss options for therapy of diagnosis made

**PHASE 3 REQUIRED CLINICAL CLERKSHIPS FOR 2008-09**

Required clinical clerkships are open only to University of Colorado Medical Students.

**IDPT 7000 Foundations Doctoring 3**  
All terms  var.cr.
Course Director, Wendy Madigosky, M.D. Course Coordinator, Tina Roquemore, 303-724-6421.
This course is the third year of the longitudinal Foundations curriculum. Students spend one afternoon, 2-3 times a month in the office of a generalist or specialist physician. Credit hours by semester = 0.5 summer, 1.0 fall, 1.0 spring.

**IDPT 7001 Integrated Clinicians 1**  
Spring sem. 2.0 crs
Course Directors, Robin Deterting, M.D. and Lisa Schilling, M.D. Course Coordinator, Christy Linsenmaier, 303-724-7732.
Course offered spring semester prior to beginning Phase III clerkship blocks.
The course is designed to assist with the transition to the clerkship blocks. Course material will provide students with reinforcement of the fundamental physical exam and presentation skills and important information about the clinical courses.

**IDPT 7002 Integrated Clinicians 2**  
Fall sem. 2.0 crs
Course Director, Robin Deterting, M.D. Course Coordinator, Christy Linsenmaier, 303-724-7732.
Through didactic and small group sessions, the course will teach advanced clinical skills, translational basic science, and thread material that is vital to doctoring, but underrepresented in the clinical blocks.

*University of Colorado Denver Health Sciences Programs 2008-2009*
IDPT 7003 Integrated Clinicians 3  
Fall sem.  
4.0 crs  
Course Director, Eva Aagaard, M.D.  Course Coordinator, Christy Linsenmaier, 303-724-7732.  
Through didactic and small group sessions, the course will teach advanced clinical skills, translational basic science, and thread material that is vital to doctoring, but underrepresented in the clinical blocks.

IDPT 7004 Integrated Clinicians 4  
Spring sem.  
4.0 crs  
Course Directors, Eva Aagaard, M.D. and Robin Michaels, Ph.D.  Course Coordinator, Christy Linsenmaier, 303-724-7732.  
Course offered spring semester end of Phase III clerkship blocks.  
Through didactic and small group sessions, the course will teach advanced clinical skills, translational basic science, and thread material that is vital to doctoring, but underrepresented in the clinical blocks.

IDPT 7010 Hospitalized Adult Care  
All terms  
16.0 crs  
Co-Course Directors, Eva Aagaard, M.D. and Paul Seligman, M.D.  Course Coordinator, Vicki Melton, 303-724-1790.  
Eight week block focused on the care of the adult inpatient at different sites.  Students are assigned to one site combination: University of Colorado Hospital, Denver Health/Presbyterian St. Luke’s or Veterans Affairs Medical Center/Exempla St. Joseph’s or Rose Medical Center.

IDPT 7020 Infant/Adolescent Care  
All terms  
12.0 crs.  
Course Director, Shale Wong, M.D., MSPH.  Course Coordinator, Brenda Lovato, 720-777-6867  
This block introduces clinical objectives to achieve competency in pediatric medicine, emphasizing illness and wellness of children and families, growth, development, physical and mental well-being.  Students combine hospital and ambulatory experiences in Denver and other Colorado communities.

IDPT 7021 Musculoskeletal Care  
All terms  
4.0 crs.  
Co-Course Directors, William Sullivan, M.D. and Jennifer Wolf, M.D. Course Coordinator, Sarah Van Wyke, 303-724-2961  
This block combines Orthopaedics, Rheumatology, Physical Medicine and Rehabilitation, basic science, and thread topics to develop competency in history, physical exam skills and the use of laboratory data and basic imaging studies to diagnose, treat, and prevent abnormalities of the musculoskeletal system.

IDPT 7030 Women and Newborn Care  
All terms  
12.0 crs.  
Course Director, Lorraine Dugoff, M.D.  Course Coordinator, Michael Baca, 303-724-2031.  
Students will work in OB/GYN clinics, labor and delivery, OB and GYN wards, and the O.R.  They will learn a newborn exam and fundamentals of newborn care.  Course offered at University Hospital, Denver Health Medical Center or an AHEC site.

IDPT 7031 Emergency Care  
All terms  
4.0 crs.  
Co-Course Directors, Lynne M. Yancey, M.D. and Tien Vu, M.D.  Course Coordinator, Marybeth Hutchins, 720-848-6768.  
An introduction to the initial evaluation and management of emergently presenting problems in adults and children.  Emphasis on recognition, differential diagnosis, and stabilization of shock and trauma.  Students will also be exposed to pre-hospital care and concepts of triage.

IDPT 7040 Psychiatric Care  
All terms  
8.0 crs.  
Course Director, Michael Weissberg, M.D.  Course Coordinator, Jennifer White, 303-724-7401.  
Students will work with psychiatric adult/child inpatients, outpatients at 12 sites including AHEC’s, providing exciting, unique clinical settings.  Students cover specific clinical experiences as outlined in course syllabus.

IDPT 7041 Neurologic Care  
All terms  
8.0 crs.  
Course Director, Christopher M. Filley, M.D.  Course Coordinator, Marcia Sabo, 303-724-2187.  
Students will participate in the diagnosis and treatment of adults with a wide variety of acute and chronic neurologic disorders.  Formal teaching is provided in Attending Rounds, student seminars, resident seminars and departmental Grand Rounds.

IDPT 7050 Peri/Operative Care  
All terms  
16.0 crs  
Co-Course Directors, Thomas Whitehill, M.D. and Brenda Bucklin, M.D.  Co-Course Coordinator, Janice Frary, 303-724-2681 and Suzanne Bullard, 303-724-1765.  
While gaining experience in surgery and anesthesiology, students study surgical diseases and participate in the operative care and delivery of anesthesia during the perioperative period. Assessment and management of common inpatient and ambulatory procedures are emphasized from initial patient referral to discharge.

IDPT 7060 Adult Ambulatory Care  
All terms  
8.0 crs  
Course Director, Kelly White, M.D.  Course Coordinator, Jennifer White, 303-724-7401.  
Course focus is chronic care of adults, including outpatient experiences and planned didactics.  Student paired with primary care preceptor and will have experiences in subspecialty clinics using the chronic care model.

IDPT 7061 Rural and Community Care  
All terms  
8.0 crs  
Course Director, David Gaspar, M.D.  Course Coordinator, Cynthia Villanueva, 303-724-0974.  
Students will learn the basics of care for patients in rural community settings throughout Colorado.
IDPT 7090 Mentored Scholarship  
Fall and Spring sem.  
1.0 crs  
Course Director, Richard Byyny, M.D. Course Coordinator, Melody Johnson, 303-724-7731.  
A four year requirement for all students to pursue and complete a mentored scholarly project and a capstone presentation. The project can be in one of the following thematic areas: basic research, clinical research; epidemiology, and public health; humanities and social sciences.

IDPT 7727 Directed Study Clin Sci  
All terms  
2 – 12 wks  
Course Director, Maureen Garrity, Ph.D.: Course Coordinator, Cindy Jameson, 303-724-6404.  
Prerequisite: Course Director approval required to add.  
This course provides an opportunity for medical students to further develop and refine their knowledge of the clinical sciences. Course will include scheduled study time, regularly scheduled practice exams, tutoring in clinic content and test taking strategies.

PHASE 4 ELECTIVES 2008-09

Prerequisite for all Phase 4 electives: Completion of Phase 3

ANESTHESIOLOGY ELECTIVES

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<th>Course Code</th>
<th>Course Title</th>
<th>Duration</th>
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<tr>
<td>ANES 8000</td>
<td>Clinical Anesthesiology</td>
<td>2 - 4 wks</td>
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</table>
|             | Course Director, Matthew Roberts, M.D., 303-724-1755. Course Coordinator, Suzanne Bullard, 303-724-1765.  
Students will work one-on-one with anesthesia faculty and residents to gain further practical experience in all aspects of peri-operative care; improving skills gained in the third year and developing a deeper understanding of the breadth of anesthetic practice.

| ANES 8001   | Surgery Intensive Care           | 4 wks    | 2   |
|             | Course Director, Fareed Azam, M.D., 303-266-6420. Course Coordinator, Suzanne Bullard, 303-724-1765.  
Prerequisites: Anesthesiology  
During this Sub-I multi disciplinary rotation, students actively participate in patient management, perform procedures, present clinical topics, discussion pathophysiology of the critically ill. Clinical excellence and an in-depth paper (2000-2500 words) are honors grade requirements.

| ANES 8002   | Anes Subspecialties              | 2 - 4 wks| 4   |
|             | Course Director, Matthew Roberts, M.D., 303-724-1755. Course Coordinator, Suzanne Bullard, 303-724-1765.  
Prerequisites: Anesthesiology  
Course exposes students to subspecialty areas in Anesthesiology. Students will attain additional experience in selected areas of anesthetic practice. Options include Acute and Chronic Pain, L & D, Cardiothoracics, Neurosurgery, Transplants and Pre-Anesthesia Testing.

| ANES 8100   | Course Away in Denver            | 2 - 16 wks|     |
|             | Course Director, Matthew Roberts, M.D., 303-724-1755. Course Coordinator, Suzanne Bullard, 303-724-1765  
Prerequisite: Anesthesiology, Departmental approval must be obtained and all arrangements made one month in advance.  
Students should discuss their course evaluation with their instructor and ensure that the written evaluation is mailed to Suzanne Bullard.

| ANES 8200   | Course Away In Colorado           | 2 - 16 wks|     |
|             | Course description is the same as Anes 8100.  

| ANES 8300   | Course Away Outside Colo          | 4 - 16 wks|     |
|             | Course description is the same as Anes 8100.  

| ANES 8400   | Course Away Outside U.S.           | 4 - 16 wks|     |
|             | Course Director, Matthew Roberts, M.D. Course Coordinator, Suzanne Bullard, 303-724-1765.  
Prerequisite: Student must receive prior approval from the Associate Dean for Student Affairs.  
Course description is the same as ANES 8100. Planning consultation is available through the Medical Student International Program.

| ANES 8600   | Research Anesthesiology           | 2 - 12 wks|     |
|             | Course Director, Paul Wischmeyer, M.D. 720-848-6700. Course Coordinator, Suzanne Bullard, 303-724-1765.  
Prerequisite: Special permission and individual arrangements required in advance. The student must receive prior approval from the Associate Dean for Student Affairs.
**DERMATOLOGY ELECTIVES**

**DERM 8000  Clinical Dermatology**
4 wks
Max: 6

Course Director, Cory Dunnick, M.D. Course Coordinator, Kemp Weston, 720-848-0510.

This course is designed to provide a broad overview of medical, surgical and pediatric dermatology. Students will become familiar with the differential diagnosis and treatment of common skin disease, and procedural dermatology including skin biopsies and cryosurgery.

**DERM 8300  Course Away Outside Colo**
4 wks

Course Director, Cory Dunnick, M.D. Course Coordinator, Kemp Weston, 720-848-0510.

Pre-requisite: Course Director approval required to register.

A four-week clinical dermatology elective at an AAMC accredited institution outside Colorado. Sections 49-50 are not available to 4th year students graduating in May.

**DERM 8400  Course Away Outside U.S.**
4 wks

Course Director, Cory Dunnick, M.D. Course Coordinator, Kemp Weston, 720-848-0510.

This is a four-week clinical dermatology elective outside of the United States. Sections 49-50 are not available to 4th year students graduating in May.

**DERM 8600  Research in Dermatology**
16 wks

Course Director, Cory Dunnick, M.D. Course Coordinator, Kemp Weston, 720-848-0510.

Prerequisite: Course Director approval required to register.

Research elective allows the student to design and implement a research project and to understand the significance and pitfalls of the results. Students are expected to participate in research seminars and to present their results.

**DERM 8630  Research Derm Outside CO**
12 wks

Course Director, Cory Dunnick, M.D. Course Coordinator, Kemp Weston, 720-848-0510.

Prerequisite: Course Director approval required.

This is a dermatology research elective at an AAMC accredited institution.

**DERM 8640  Research Derm Out Of U.S.**
12 wks

Restrictions: This course may only be added during a drop/add period.

Prerequisite: Course Director approval required to add this course. Course description same as DERM 8600.

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**FAMILY MEDICINE ELECTIVES**

**FMMD 8001  Healthcare Poor/Homeless**
12 wks
Max: 8

Fall/Spring Semesters only

Course Director, Allegra Melillo, M.D., Course Coordinator, Cynthia Villanueva, 303-724-0974.

Assist the FMMD 6624 Healthcare for the Poor and Homeless course by participating in Saturday morning clinics at Stout Street Homeless Clinic and teaching first and second year medical students. Credit received for this course does NOT apply towards graduation.

**FMMD 8002  Family Med Subinternship**
4 wks
Max: 1

Course Director, Morteza Khodaee, M.D., Course Coordinator, Alice Skram, 720-848-9096.

Experience CU Family Medicine! Students will be members of the inpatient service team at the Anschutz Inpatient Pavilion, take call, and will spend 2 half days per week at the A.F. Williams Family Medicine Center (outpatient clinic).

**FMMD 8005  Care for Underserved**
2 wks
Max: 1

Course Director, Richard Kornfeld, M.D., 720-956-2039. Course Coordinator, Alice Skram, 720-848-9096.

Prerequisite: Course Director approval required to register.

Offered at Lowry. Interact with culturally varied refugee and underserved populations, gain insight into the challenges faced by these underserved populations and assess if your future practice goals include serving these groups.

**FMMD 8007  Out-Patient Family Med**
4 wks
Max: 1

Course Director, Morteza Khodaee, M.D. 720-848-9056. Course Coordinator, Alice Skram, 720-848-9096
Course is an outpatient family medicine at A.F. Williams Family Medicine Center and Denver Health’s Lowry Family Medicine Clinic. Multidisciplinary faculty including pharmacologists, behavioral scientist, and experienced family physicians and residents caring for a diverse group of patients.

**FMMD 8008 Occup/Envir Med In FMMD**
Course Director, David Gaspar, M.D. Course Coordinator, Cynthia Villanueva, 303-724-0974.
Prerequisite: Course director approval required to add this elective.
Students will learn principles of Occupational and Environmental Medicine. A variety of assessments ranging from sport physicals, commercial/FAA exams to complex disability evaluations will be taught. Elective taught by Drs. Stephen Gray or James Bachman.

**FMMD 8009 Directed Study in FMMD**
Course Director, David Gaspar, M.D. Course Coordinator, Cynthia Villanueva, 303-724-0974.
Prerequisite: Course director approval required to add this elective.
Students may participate in scholarly work directed by specific Department of Family Medicine faculty members including curriculum development, patient education projects, and other scholarly activities.

**FMMD 8010 Preventive Hlth Elective**
Course Directors, David Gaspar, M.D. and Bonnie Jortberg, MS, RD, CDE, Course Coordinator, Cynthia Villanueva, 303-724-0974.
Educate yourself in nutrition and preventive health, including physical activity and behavior change. A practical and interesting introduction to useful concepts will occur through interactive and varied didactics and clinical experience split over two weeks.

**FMMD 8011 Colon Cancer & Endoscopy**
Not available summer semester.
Course Director, John M. Westfall, MD, MPH. Course Coordinator, Beth Ingram, 303-724-0360.
An independent study of the epidemiology, pathophysiology, clinical presentation, screening and prevention of colorectal cancer. Students will complete an online didactic course, 30-40 lower GI endoscopy cases on state-of-the-art endoscopy simulator and possibly a clinical observation experience.

**FMMD 8100 Course Away In Denver**
Course Director, David Gaspar, M.D. Course Coordinator, Cynthia Villanueva, 303-724-0974.
Students will manage problems common to Family Medicine. Four-week inpatient sub-internships available by direct application to Saint Joseph’s, St. Anthony’s, Rose, and Swedish Family Medicine Residency programs. Outpatient electives at these programs and private offices also available.

**FMMD 8200 Course Away In Colorado**
Course Director, David Gaspar, M.D. Course Coordinator, Cynthia Villanueva, 303-724-0974.
Restrictions: May not register for final 6 weeks of academic year.
Students will manage problems common to Family Medicine. Four-week inpatient sub-internships available by direct application to Ft. Collins, North Colorado (Greeley), Saint Mary’s (Grand Junction), Southern Colorado (Pueblo) Residency programs. Outpatient electives at these programs and private offices also available.

**FMMD 8300 Course Away Outside Colo**
Course Director, David Gaspar, M.D. Course Coordinator, Cynthia Villanueva, 303-724-0974.
Restriction: May not register for final 6 weeks of academic year.
Students will manage problems common to Family Medicine. Inpatient and outpatient electives available by direct application. U.S. Family Medicine Residency programs or in private offices with course director approval.

**FMMD 8400 Course Away Outside U.S.**
Co-Course Directors, Inis Bardella, M.D. Bonnie Jortberg, M.S., R.D., C.D.E.; Course Coordinator, Cynthia Villanueva, 303-724-0974.
Restrictions: May not register for final 6 weeks of academic year.
Prerequisite: Approval from the Associate Dean for Student Affairs required to register.
Management of problems common to Family Medicine outside of the United States. Inpatient and outpatient experiences are acceptable. Successful International Experiences sessions are required. Arrangements must be completed 60 days prior to the elective.

**FMMD 8410 Immersion Spanish**
Co-Course Directors, Inis Jane Bardella, M.D., Bonnie Jortberg, M.S., R.D., C.D.E.; Course Coordinator, Cynthia Villanueva, 303-724-0974.
Restrictions: May not register for final 6 weeks of academic year.
Prerequisites: Approval from the Associate Dean of Student Affairs required to register.
Students attend an accredited Spanish program. Participation is 20 hours/week of language study AND 20 hours/week of medical Spanish or 2 half days/week clinical activity. Successful International Experiences sessions required. Arrangements must be completed 60 days prior.
FMMD 8600  Research in FMMD  
Course Director, David Gaspar, M.D.  Course Coordinator, Cynthia Villanueva, 303-724-0974.  
Prerequisite: The student must receive prior approval from the Associate Dean for Student Affairs and the department to register.  
Primary Care research opportunities are available in practice-based and epidemiologic research.

FMMD 8630  Research FMMD Outside CO  
Course Director, David Gaspar, M.D.  Course Coordinator, Cynthia Villanueva, 303-724-0974.  
Restrictions: May not register for final 6 weeks of academic year.  
Prerequisite: Departmental approval must be obtained and all arrangements made at least one semester in advance.  
Approval of the Associate Dean for Student Affairs required.  
Course description same as FMMD 8600, except occurs outside of Colorado.

FMMD 8640  Research FMMD Out Of U.S  
Co-Course Directors, Inis Bardella, M.D. Bonnie Jortberg, M.S., R.D., C.D.E., Course Coordinator, Cynthia Villanueva, 303-724-0974.  
Restrictions: May not register for final 6 weeks of academic year.  
Prerequisites: Departmental approval must be obtained and all arrangements made at least one semester in advance.  
Approval of the Associate Dean for Student Affairs required.  
Primary care research opportunities are available outside the United States. This elective may be used for the MSA. Successful International Experiences sessions are required.

INTERDEPARTMENTAL ELECTIVES

IDPT 8000  Foundations Doctoring 4  
Course Director, Wendy Madigosky, M.D., MSPH, 303-724-6420.  Course Coordinator, Tina Roquemore, 303-724-6421.  
Prerequisite: IDPT 7000.  
This course continues the established student-preceptor relationship from the FDC course. Students attend their preceptor office 2-3 times per month. Students will work with a panel of patients or families serving as their physician under the supervision of their preceptor.

IDPT 8001  Tutoring in Foundations 1.0 cr  Fall and Spring sem  
Course Director, Wendy Madigosky, M.D., 303-724-6420.  Course Coordinator, Tina Roquemore, 303-724-6421.  
Fourth year students are trained how to be tutors and then use their skills with first and second year students learning physical exam and communication skills. Learn how to coach small groups of students, give feedback and evaluate student performance.

IDPT 8003  Geriatrics 4 wks  Max: 2  
Course Directors, Laurence J. Robbins, M.D.  Course Coordinator, Lynn Blair, 303-393-2822.  
Student receives core didactic and reading material to enhance their knowledge of common geriatric medical and psychosocial issues. Exposed to patient care in numerous out-patient, inpatient, hospice, long term care and home care settings on and off of University campus.

IDPT 8005  Integrated Clinicians 5  2 wks  
Course Director, Robin Michaels, Ph.D.  Course Coordinator, Christy Linsenmaier, 303-724-7732.  
Through didactic and small group sessions, the course will teach advanced clinical skills, translational basic science and thread material that is vital to doctoring, but underrepresented in the clinical blocks.

IDPT 8006  Integrated Clinicians 6  2 wks  
Course Director, Robin Deterding, M.D.  Course Coordinator, Christy Linsenmaier, 303-724-7732.  
ICC 6 is a required Phase IV course that will provide you with essential learning opportunities to begin residency and your career to include ACLS, legal malpractice, teaching skills, finance, leadership skills and specialty specific clinical reviews.

IDPT 8007  Medicine / Pediatrics 2, 3 or 4 wks  Max: 1  
Provide ambulatory and hospital care for pediatric and adult patients with a physician board-certified in both medicine and pediatrics. The focus is primary care. This elective is of interest to students interested in medicine/pediatric residencies and careers.

IDPT 8009  Head/Neck Tumor Oncology 4 wks  Max: 1  
Course Director, John Song, M.D.  Course Coordinator, Alicia Gore, 303-724-1957.  
Restrictions: Course not offered sections 9, 13, 29.
Exposure to patients with H&N malignancies and time spent in primary treatment disciplines. Goals, students should assess patient complaints, formulate treatment plan and participate in interdisciplinary approach to management of H&N cancer patients.

**IDPT 8011  Clinical Nutrition**  
Course Director, Nancy Krebs, M.D., M.S., 303-315-7037.
Develop your nutrition assessment skills with this elective, tailored to your needs with adult and/or pediatric inpatients and/or outpatients with a variety of conditions and diseases. Active learning with exceptional mentors is emphasized.

**IDPT 8013 Tropical Medicine**  
Course Directors, Andrew Kestler, M.D., Mary Kestler, M.D. Richard Gustafson, M.D., and Margaret McLees, M.D.  
Course Coordinator, Cathy Maciel, 720-848-6767.  
Restrictions: Offered session 25 only.
Interactive group discussions, case presentations, lab sessions, and lectures from faculty with experience in the field. Topics cover healthcare in resource-poor settings, tropical diseases, and basics of community health. Evaluation based on class participation/ final examination.

**IDPT 8014 Global Hlth US Project**  
Course Director, Andrew Kestler, M.D. Course Coordinator, Cathy Maciel, 720-848-6777.
Course Restrictions: Course director approval required to add course.
This course is the continuation of IDPT 6667 and 6668. Students will undertake a global health project at a US-based site under the supervision of their designated mentor and local supervisors.

**IDPT 8015 Global Hlth Intl Project**  
Course Director, Andrew Kestler, M.D. Course Coordinator, Cathy Maciel, 720-848-6777.
Course Restrictions: Course director approval required to add course.
This course is the continuation of IDPT 6667 and 6668. Students will undertake a global health project at an international site under the supervision of their designated mentor and local supervisors.

**IDPT 8016 Physician as Educator**  
Course Director, Allegra Melillo, M.D. Course Coordinator, Cynthia Villanueva, 303-724-0974.
Course Restrictions: This is a two-semester course offered fall and spring semesters.
This elective is intended to develop your skills as an effective teacher in clinical settings. This will include participation in evening teaching workshops, co-precepting first and second year medical students at Stout Street Clinic and Foundations of Doctoring skills sessions.

**IDPT 8827 Directed Study Clin Sci**  
Course Director, Maureen Garrity, Ph.D.: Course Coordinator, Cindy Jameson, 303-724-6404.
Prerequisite: Course Director approval required to add.
This course provides an opportunity for medical students to further develop and refine their knowledge of the clinical sciences. Course will include scheduled study time, regularly scheduled practice exams, tutoring in clinic content and test taking strategies.

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<th>Course Code</th>
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<tr>
<td>MED 8001</td>
<td>Medicine Subinternship</td>
<td>4 wks</td>
<td>Max: 18</td>
</tr>
<tr>
<td>MED 8003</td>
<td>Transfusion Medicine</td>
<td>4 wks</td>
<td>Max: 1</td>
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<tr>
<td>MED 8004</td>
<td>Cardiology</td>
<td>4 - 6 wks</td>
<td>Max: 6</td>
</tr>
</tbody>
</table>
MED 8005  Cardiac Diagnostic Skill  2 wks  Max: 6
Course Director, William Nelson, MD. 303-837-6822. Course Coordinator, Vicki Melton, 303-724-1790.
Restrictions: Course may only be added during a drop/add time.
Course is at Exempla St. Joseph Hospital. Goals are to improve cardiac physical diagnosis skills, interpret EKG findings, recognize abnormal heart sounds and murmurs; and analyze cardiac chest x-ray findings. Includes didactic sessions and home study.

MED 8006  Allergy/Clin Immunology  4 wks  Max: 1
Course Director, Stephen Dreskin, M.D., 303-315-7601. Course Coordinator, Jeanne Kittle, 303-315-7601.
Prerequisite: Course Director approval required to add course.
Offered at UH and NJMC. Allergy and clinical immunology with direct patient contact in allergy and immunology clinics. Opportunities to participate in inpatient consultations, observe clinical immunology laboratory techniques, and library research.

MED 8007  Clinical Renal  4 wks  Max: 4
Course Director, Tomas Berl, M.D., 303-315-6734. Course Coordinator, Cheryl Phoenix, 303-315-6734.
A four-week elective course in electrolyte, hypertensive, acute and chronic renal failure, glomerular (including diabetes) disorders, and hospital services. The students will see consults on all services, learn to maintain and analyze flow sheets, review problems with residents and fellows.

MED 8009  Clin Infectious Diseases  4 wks  Max: 6
Course Director, Nancy Madinger, M.D. Course Coordinator, Sandra Wigginton, 303-315-0472.
UCH and DHMC. Hospital assigned. Hospitalized patients with a variety of infectious diseases are available for study. Diagnosis, pathophysiology, immunology, epidemiology, and management, including use of antimicrobial agents are emphasized. Students attend and participate in ward rounds and conferences.

MED 8010  Clin Gastroenterology  4 to 12 wks  Max: 2
Course Director, Joel Levine, M.D. Course Coordinator, Amanda Bauer, 303-724-1858.
Students will participate in work up of both hospitalized and ambulatory patients with gastrointestinal (GI) illnesses. GI pathophysiology will be emphasized. Students attend weekly conferences in clinical gastroenterology, radiology and pathology. They are invited to observe procedures. Hospital is assigned.

MED 8011  Pulmonary  4 wks  Max: 4
Course Director, Marvin Schwarz, M.D. Course Coordinator, Jennifer Waters, 303-315-4211.
UCH, DHMC, and DVAMC. This elective offers broad experience in pulmonary and critical care medicine. Students participate in consultations, attend conferences and clinics. A wide variety of pulmonary and critical care cases are seen.

MED 8012  Clinical Rheumatology  4 wks  Max: 1
Course Director, Robert W. Janson, M.D. Course Coordinator, Wanda Simpson, 303-724-7605.
Prerequisite: Completion of all third year clerkships.
Students will learn how to recognize, diagnose, and treat common rheumatic disorders. Students will attend all formal teaching conferences in the Division of Rheumatology and attend 6 or more outpatient clinics each week.

MED 8013  Endocrinology  4 or 6 wks  Max: 2
Course Director, Cecilia Wang, M.D., 303-399-8020. Course Coordinator, Emily Martin, 303-724-3927.
Introduction to evaluation and management of endocrine disorders via outpatient clinics and inpatient consults at VAMC, DHMC, UCH. Endocrine-focused history-taking and physical examination with a complete problem-oriented approach to patient care. Multiple conferences and close interaction with fellows and attendings.

MED 8014  Hematology / Oncology  3 - 6 wks  Max: 1
Course Director, Paul Seligman, M.D. Course Coordinator, Theresa Martinez, 303-315-3415.
Prerequisites: Med, Obgy, Ped, Psch 7000.
Students are exposed to a wide range of patients seen in consultation for hematologic and oncologic problems. Students may also elect to attend the numerous subspecialty outpatient clinics for patients with various malignancies.

MED 8017  Hospice/Palliative Care  2, 3 or 4 wks  Max: 1
Course Director, Paul Seligman, M.D. Course Coordinator, Theresa Martinez, 303-315-3415.
Prerequisites: Med, Obgy, Ped, Psch 7000.
Requirement - contact Dr. Seligman one week before beginning.
Students learn the physician’s role in caring for dying patients. Students encounter home care and residential hospice patients and learn compassionate pain and symptom control.

MED 8025  Medical Oncology  4 - 6 wks  Max: 2
Course Director, Karl Lewis, M.D., 720-848-0584.
Students will learn the basic aspects of medical oncology by evaluation of patients in the general oncology, breast, lung cancer, prostate, melanoma, leukemia and lymphoma clinics. They will attend the weekly multi-disciplinary tumor conferences.

MED 8026  Medical Oncology Sub I  4 wks  Max: 1
Course Director, Karl Lewis, M.D., 720-848-0584.

This elective is a sub-internship on the oncology unit of University Hospital. The student will function as an intern, admitting and evaluating patients. Teaching rounds will be on a daily basis with residents, oncology fellows and an attending physician.

**MED 8029  Applied Clin Pharmacology**

- **Credit:** 4 wks
- **Max:** 120/Min: 20
- **Course Director:** Joseph Gal, Ph.D.
- **Course Coordinator:** Brandi Dolan, 303-315-8455.
- **Restriction:** Course offered section 37 only.

This course provides fourth year medical students with a practical approach to the pharmacologic treatment of common clinical conditions. There will be three 1-hour lectures each day, ten additional hours of independent study per week, and a final examination.

**MED 8032  Corrections Health Care**

- **Credit:** 2 wks
- **Max:** 1
- **Course Directors:** Ingrid Binswanger, M.D. and Peter Crum, M.D.
- **Course Coordinator:** Vicki Melton, 303-724-1790.
- **Prerequisite:** One month notice needed to schedule this elective.

Provide primary care to inmates in corrections facilities. Experiences include manipulative or drug-seeking patients, the interface between health care and the legal system, and issues in correctional health care (i.e., HIV, TB).

**MED 8033  Sub In-Pat Med St Joseph**

- **Credit:** 4 wks
- **Max:** 2
- **Course Directors:** Robert Gibbons, M.D. and Lisa Cyran, M.D.
- **Course Coordinator:** Louann Mayes, 303-866-8885.

Student functions as an intern-equivalent and is responsible for evaluation and continuing care of patients under supervision of a resident and attending. Student will enhance skills in report, interpreting clinical information, and inpatient management. Students will present EBM-research clinical question.

**MED 8034  Sub I Crit Care StJoseph**

- **Credit:** 4 wks
- **Max:** 2
- **Course Directors:** Robert Gibbons, M.D. and Lisa Cyran, M.D.
- **Course Coordinator:** Louann Mayes, 303-866-8885.

Student functions as an inter-equivalent and admits patients during overnight call every third day. Student will enhance skills in reporting, interpreting clinical information, in patient management and in daily ICU interdisciplinary rounds. Student will present an EMB-research clinical question.

**MED 8036  Sub I Critical Care DHMC**

- **Credit:** 4 wks
- **Max:** 2
- **Course Director:** James H. Fisher, M.D.
- **Course Coordinator:** Doris Quintana, 303-436-5905.
- **Prerequisites:** Sub-I in medicine or surgery. Course Director approval required to add this course.

The sub-internship in medical critical care offers phase 4 medical students an opportunity to develop expertise in the diagnosis and management of critically ill patients. Students will also receive training in the performance of common ICU procedures.

**MED 8037  Sub I Critical Care UH**

- **Credit:** 4 wks
- **Max:** 1
- **Course Director:** Ellen Burnham, M.D.
- **Course Coordinator:** Katie Hamlin, 303-315-1365.
- **Prerequisites:** Sub I in Med or Surg.

The CC sub-internship will provide training in the care of critically ill ICU patients. Emphasized skills will include management of respiratory and cardiac failure, hemodynamic instability, severe electrolyte abnormalities and common ICU procedures.

**MED 8100  Course Away in Denver**

- **Credit:** 2 - 16 wks
- **Restrictions:** Not available sections 49-50.
- **Course Director:** Eva Aagaard, M.D.
- **Course Coordinator:** Vicki Melton, 303-724-1790.

Students discuss your course evaluation with individual instructor and ensure written evaluation is mailed to Dr. Eva Aagaard at A01, 12631 East 17th Avenue, Box B-166, Aurora, CO 80045. Dr. Aagaard assigns final grade.

**MED 8200  Course Away in Colorado**

- **Credit:** 2 - 16 wks

Course description and restrictions same as Med 8100.

**MED 8300  Course Away Outside Colo**

- **Credit:** 2 - 16 wks

Course description and restrictions same as Med 8100.

**MED 8400  Course Away Outside U.S.**

- **Credit:** 4 - 16 wks
- **Restrictions:** Not available sections 49-50.

Course description is the same as MED 8100. The student must receive approval from the Associate Dean for Student Affairs. Planning consultation is available through the Medical Student International Program.

**MED 8600  Research in Medicine**

- **Credit:** 2 - 12 wks
- **Course Directors:** Kathryn Horwitz, Ph.D., 303-724-3936 and Eva Aagaard, M.D., 303-724-1790.

Course Coordinator, Vicki Melton, 303-724-1790.
Restrictions: Not available sections 49-50.
Course provides an opportunity for seniors to participate in research at the clinical or basic science level. The student must consult with Dr. Horwitz or Dr. Aagaard about the varieties of options available.

MED 8601 Intro Biomed Research
Course Director, Course Director, John Repine, M.D.
The goal of this course is to familiarize medical students with Biomedical Research and literature searches. Students will select and prepare a short paper on a specific approved topic and then review the work with a mentor and/or

MED 8630 Research Med Outside CO
Course Directors Kathryn Horwitz, Ph.D., 303-724-3936 and Eva Aagaard, M.D., 303-724-1790. Course Coordinator, Vicki Melton, 303-724-1790.
Restrictions: Not available sections 49-50.
Prerequisites: Departmental approval must be obtained and all arrangements made at least one semester in advance. The student must receive prior approval from the Associate Dean for Student Affairs.

MED 8640 Research Med Out Of U.S.
Course Directors Kathryn Horwitz, Ph.D., 303-724-3936 and Eva Aagaard, M.D., 303-724-1790. Course Coordinator, Vicki Melton, 303-724-1790.
Restrictions: Not available sections 49-50.
Seniors do clinical, basic science or health services research under the supervision of a Medicine faculty. Project is defined with individual mentor and approved by course director. Research mentor assigns final grade.

NEUR 8000 Neurology
Course Director, Christopher M. Filley, M.D., 303-724-2195. Course Coordinator, Marcia Sabo, 303-724-2187.
This elective offers students further clinical experience with patients who have neurologic disorders. A program is prepared at one of three teaching institutions (University of Colorado Hospital, Denver Veterans Affairs Medical Center, or Denver Health Medical Center) for this rotation.

NEUR 8100 Course Away In Denver
Course Director, Christopher M. Filley, M.D., 303-724-2195. Course Coordinator, Marcia Sabo, 303-724-2187.
Prerequisite: Arrangements must be made one month in advance.
A written evaluation must be sent from the outside department to Dr. Filley. Dr. Filley assigns final grade.

NEUR 8300 Course Away Outside Colo
Course description is the same as Neur 8100.

NEUR 8400 Course Away Outside U.S.
Prerequisite: The student must receive approval from the Associate Dean for Student Affairs and course director.
Course description same as NEUR 8300. Planning consultation is available through the Medical Student International Program. Course work must be discussed with and approved by Dr. Filley.

NEUR 8600 Research in Neurology
Prerequisite: Offered with Chairman’s approval only. The student must receive approval from the Associate Dean for Student Affairs.
For further course information, contact the Chairman, Donald Gilden, M.D., 303-315-8281.
Course Coordinator, Marcia Sabo 303-724-2187.

NEUR 8630 Research Neur Outside Colo
Prerequisite: Departmental approval must be obtained and all arrangements made at least one semester in advance. The student must receive prior approval from the Associate Dean for Student Affairs and from the Chairman of Neurology, Donald Gilden, M.D., 303-315-8281.

NEUR 8640 Research Neur Out Of U.S
Course description same as NEUR 8630.

NEUROSURGERY ELECTIVES

NSUR 8014 Neurosurgery Sub I
Course Director, Michael Handler, M.D., 720-777-6100. Course Coordinator, Lauren Buckles, 303-724-2302.
Intensive rotation emphasizing care and management of neurosurgical patients, with close patient responsibility. Weekly conferences and lectures required and students must present a case with topic discussion. Recommended for students with interests in neurosurgery, neurology, emergency medicine and trauma surgery.

**NSUR 8100  Course Away In Denver**  
Course Director, Michael Handler, M.D. Course Coordinator, Lauren Buckles, 303-724-2302.  
Prerequisites: Departmental approval must be obtained and arrangements made one month in advance.  
Students are required to discuss their course evaluation with their individual instructor and ensure a written evaluation is mailed to Dr. Michael Handler. Dr. Handler assigns final grade.

**NSUR 8200  Course Away In Colorado**  
Restrictions: Not available sections 49-50.  
Course description is the same as NSUR 8100.

**NSUR 8300  Course Away Outside Colo**  
Restrictions: Not available sections 49-50.  
Course description is the same as NSUR 8100.

**NSUR 8400  Course Away Outside U.S.**  
Restrictions: Not available sections 49-50.  
Course description is the same as NSUR 8100.

**NSUR 8600  Research in Neurosurgery**  
Course Director, Michael Handler, M.D. Course Coordinator, Lauren Buckles, 303-724-2302  
Prerequisites: Departmental approval must be obtained and all arrangements made at least one month in advance. A written evaluation must be sent to Dr. Michael Handler and Lauren Buckles.

**NSUR 8630  Research NSUR Outside CO**  
Restrictions: Not available sections 49-50.  
Course description is the same as NSUR 8600.

**NSUR 8640  Research NSUR Out Of U.S**  
Restrictions: Not available sections 49-50.  
Course description is the same as NSUR 8600.

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**OBSTETRICS AND GYNECOLOGY ELECTIVES**

**OBGY 8000  General Obstetrics Sub I**  
Course Director, Lorraine Dugoff, M.D. 303-724-2044, Course Coordinator, Michael Baca, 303-724-2031.  
Offered at DHMC only. Includes experience in prenatal, intrapartum, postpartum, and family planning. Student works under clinical supervision of residents and attending staff.

**OBGY 8001  General Gynecology Sub I**  
Course Director, Lorraine Dugoff, M.D. 303-724-2044, Course Coordinator, Michael Baca, 303-724-2031.  
Offered at DHMC only. Includes experience in outpatient gynecology, family planning, operative gynecology and postoperative care. Student works under supervision of residents and attending staff.

**OBGY 8002  Directed Study in OB/GYN**  
Course Director, Lorraine Dugoff, M.D., 303-724-2044. Course Coordinator, Michael Baca, 303-724-2031.  
Prerequisites: Must have approval from specific faculty involved and from Course Director to register. Students may obtain detailed and intensive directed study with specific faculty members. Opportunities such as clinical research projects, laboratory projects, directed literature reviews, and special clinical rotations are available.

**OBGY 8004  High Risk Maternal/Fetal**  
Course Director, Lorraine Dugoff, M.D., 303-724-2044. Course Coordinator, Michael Baca, 303-724-2031.  
Intensive exposure to problems of high-risk obstetrics. Student will work under supervision of the Maternal-Fetal Medicine Staff. Student will attend high-risk clinics, have primary responsibility for patient care in antepartum unit under supervision of chief resident.

**OBGY 8005  Gynecologic Oncology**  
Course Director, Lorraine Dugoff, M.D. 303-724-2044. Course Coordinator, Michael Baca, 303-724-2031.  
Student will attend GYN oncology clinics and scrub on all GYN oncology surgery, functioning as acting intern. All pathology will be reviewed with GYN oncologist. Literature review on selected subject required. Clinical research opportunities available.

**OBGY 8009  GYN Subspecialties**  
Max: 1
Student attends outpatient gynecologic diagnostic clinics, colposcopy and laser surgery, urogynecology, urodynamics, hysteroscopy, and pelvic pain. Student works under supervision of Gyn staff. Directed study and clinical research. Attendance at colposcopy biopsy review conference, preoperative and Gyn teaching conferences required.

**OBGY 8010 Reproductive/Infertility** 4 wks  Max: 1
Course Director, Ruben Alvero, M.D. Course Coordinator, Michael Baca, 303-724-2031.
Student will attend clinics, scrub on surgical procedures, in vitro fertilization procedures, and embryo transfers. The student will participate in ultrasounds, procedures and clinical consultations. The student will present a brief lecture to the division at the conclusion of the rotation.

**OBGY 8011 Family Planning** 4 wks  Max: 1
Course Director, Kristina Tocce, M.D., Co-course Director, Stephanie Teal, M.D., Course Coordinator, Michael Baca, 303-724-2031.
Prerequisites: Passing grade in third year Women and Newborns clerkship (IDPT 7030).
This elective is designed to make the student proficient in providing family planning services: contraception, options counseling and termination procedures. Substantial emphasis will also be placed participation in ongoing research activities of the division.

**OBGY 8012 UH Gyn Sub-Internship** 4 wks  Max: 1
Course Director, Kristina Tocce, M.D., Course Coordinator, Michael Baca, 303-724-2031.
Prerequisites: Passing grade in third year Women and Newborns Rotation (IDPT 7030).
This course is designed to allow students to become integrally involved with the general gynecology service. Students will partake in all clinical activities of the service, including operative procedures, management of inpatient gynecology conditions, and emergency room consultation.

**OBGY 8100 Course Away in Denver** 2 - 16 wks
Course Director, Lorraine Dugoff, M.D., 303-724-2044. Course Coordinator, Michael Baca, 303-724-2031.
Prerequisites: Departmental approval must be obtained and all arrangements must be made one semester in advance. Students required to discuss course evaluation with individual instructor and ensure a written evaluation is mailed to Dr. Lorraine Dugoff. Dr. Dugoff assigns final grade.

**OBGY 8200 Course Away in Colorado** 2 - 16 wks
Course description same as OBGY 8100.

**OBGY 8300 Course Away Outside Colo** 2 - 16 wks
Course description same as OBGY 8100.

**OBGY 8400 Course Away Outside U.S.** 4 - 16 wks
Prerequisites: The student must receive prior approval from the Associate Dean for Student Affairs.
Course description same as OBGY 8100. Planning consultation is available through the Medical Student International Program.

**OBGY 8600 Research in OBGYN** 2 - 12 wks
Prerequisites: Departmental approval must be obtained and all arrangements must be made one semester in advance. The student must receive prior approval from the Associate Dean for Student Affairs.

**OBGY 8630 Research Outside Colorado** 4 - 12 wks
Course description same as OBGY 8600.

**OBGY 8640 Research Outside U.S.** 4 - 12 wks
Course description same as OBGY 8600.

**OPHTALMOLOGY ELECTIVES**

**OPHT 8000 Ophthalmology** 4 wks  Max: 1
Course Director, Richard Davidson, M.D. Course Coordinator, Gaylian Howard, 720-848-5029.
This elective is designed for senior students seriously considering a career in Ophthalmology. Students rotate at each hospital with in-depth exposure to each subspecialty area. Students are expected to participate with in- and outpatient care, call activities, teaching rounds, conferences.

**OPHT 8100 Course Away In Denver** 2 - 16 wks
Course Director, Richard Davidson, M.D. Course Coordinator, Gaylian Howard, 720-848-5029.
Prerequisites: Arrangements must be made one month in advance. Departmental approval required to register. A final written evaluation must be mailed to Course Director who will assign the final grade.
OPHT 8200  Course Away In Colorado  
2 - 16 wks
Course description same as OPHT 8100.

OPHT 8300  Course Away Outside Colo  
4 - 16 wks
Course description same as OPHT 8100.

OPHT 8400  Course Away Outside U.S.  
2 - 16 wks
Prerequisites: The student must receive prior approval from the Associate Dean for Student Affairs. Course description same as OPHT 8100. Planning consultation is available through the Medical Student International Program.

OPHT 8600  Research Ophthalmology  
2 - 12 wks
Course Director, Richard Davidson, M.D.  Course Coordinator, Gaylian Howard, 720-848-5029.
Prerequisites: Arrangements must be made one month in advance. Departmental approval required to register. A full written evaluation must be mailed to Course Director who will assign the final grade.

OPHT 8630  Research OPHT Outside CO  
4 - 12 wks
Course description is the same as OPHT 8100.

OPHT 8640  Research OPHT Out Of U.S  
4 - 12 wks
Prerequisites: Approval from the Associate Dean of Student Affairs and course director required to register. Course description is the same as OPHT 8100. Planning consultation is available through the Medical Student International Program.

ORTH 8000  Orthopaedic Surgery  
4 or 6 wks  Max: 6
Course Director, Jennifer Wolf, M.D.  Course Coordinator, Sarah Van Wyke, 303-724-2961.
Restrictions: Offered summer and fall semesters.
This course is designed as an elective in Orthopaedic Surgery for students desiring residency training in Orthopaedics or another surgical specialty. The student will function as a "sub intern" on a resident/faculty team.

ORTH 8001  Orthopaedic Primary Care  
2 - 4 wks  Max: 4
Course Director, Jennifer Wolf, M.D.  Course Coordinator, Sarah Van Wyke, 303-724-2961.
Restriction: Offered spring semester.
This course is designed as an elective in musculoskeletal medicine in route to a career in primary care or other overlapping field. The focus is on outpatient musculoskeletal medicine.

ORTH 8005  Sports Medicine  
4 wks  Max: 1
Course Directors, Jennifer Wolf, M.D. and Eric McCarty, M.D.  Course Coordinator, Sarah Van Wyke, 303-724-2961.
Course provides clinical experience in musculoskeletal sports medicine. Students will primarily be based in the CU Sports Medicine Clinic. Opportunities include participation in the clinic, operating room and the training room.

ORTH 8100  Course Away In Denver  
2 - 16 wks
Course Director, Jennifer Wolf, M.D.  Course Coordinator, Sarah Van Wyke, 303-724-2961.
Prerequisites: Arrangements must be made one month in advance. Departmental approval required to register.

ORTH 8200  Course Away In Colorado  
2 - 16 wks
Course description same as ORTH 8100.

ORTH 8300  Course Away Outside Colo  
2 - 16 wks
Course description same as ORTH 8100.

ORTH 8400  Course Away Outside U.S.  
2 - 16 wks
Prerequisites: The student must receive prior approval from the Associate Dean for Student Affairs and course director to register. Course description same as ORTH 8100. Planning consultation is available through the Medical Student International Program.

ORTH 8600  Research in Orthopedics  
4 - 12 wks
Course Director, Jennifer Wolf, M.D.  Course Coordinator, Sarah Van Wyke, 303-724-2961.
Prerequisites: Approval from Course Director and Associate Dean for Student Affairs required to register. Provides an opportunity to participate in research at the clinical or basic science level. The student should contact the Departmental Office 3-4 months in advance to arrange a meeting with a member of the Orthopaedics faculty to define a project.

ORTH 8630  Research Outside Colo  
4 - 12 wks
Prerequisites: Departmental approval must be obtained and all arrangements made at least one month in advance.
ORTH 8640  Research Outside U.S.  4 - 12 wks
Prerequisites: The student must receive prior approval from the Associate Dean for Student Affairs and course director to register.
Course description same as ORTH 8630.

OTOLARYNGOLOGY ELECTIVES

OTOL 8000  Clinical Otolaryngology  2, 4, or 6 wks  Max: 3
Course Director, Peggy Kelley, M.D., 720-777-8520. Course Coordinator, Alicia Gore, 303-724-1957.
Recommended for students considering an ENT career. Offers in-depth clinical and operative exposure. Also useful for those seeking primary care to further hone head and neck exam skills and treatment of ENT pathology.

OTOL 8100  Course Away In Denver  2 - 16 wks
Course Director, Peggy Kelley, M.D., 720-777-8520. Course Coordinator, Alicia Gore, 303-724-1957.
Prerequisites: Required departmental approval and all arrangements made one quarter in advance.
Students are required to discuss course evaluations with individual instructor and ensure the written evaluation is faxed to course coordinator at 303-724-1961. Dr. Kelley assigns final grade.

OTOL 8200  Course Away In Colorado  2 - 16 wks
Course description same as OTOL 8100.

OTOL 8300  Course Away Outside Colo  4 - 16 wks
Course description same as OTOL 8100.

OTOL 8400  Course Away Outside U.S.  4 - 16 wks
Prerequisites: Student must receive prior approval from Associate Dean for Student Affairs and course director to register.
Course description same as OTOL 8100. Planning consultation is available through the Medical Student International program.

OTOL 8600  Research Otolaryngology  4 - 12 wks
Course Director, Katie Rennie, Ph.D., 303-315-2923.
Prerequisites: Prior approval from Associate Dean and course director required to register.
Objectives: 1) work in supervised environment to gain appreciation for research design, criticism and statistical analysis; 2) complete research project with potential to publish in peer-reviewed journal.

OTOL 8630  Research OTOL Outside CO  4 - 12 wks
Prerequisites: Departmental approval must be obtained and all arrangements made one semester in advance. Approval from the Associate Dean for Student Affairs also required.

OTOL 8640  Research OTOL Out Of U.S  4 - 12 wks
Course description same as OTOL 8630.

PATHOLOGY ELECTIVES

PATH 8000  Pathology  4, 6 or 12 wks  Max: 2
Course Director, Jeffrey T. Holt, M.D., 303-724-4318. Course Coordinator, Theresa Demers, 303-724-3707.
The Department assigns hospital by interests of the student. Anatomic pathology includes autopsy, surgical pathology, hematopathology and cytology. Clinical pathology includes clinical chemistry, microbiology, coagulation/blood banking and molecular diagnosis. Intended for those interested in clinical medicine, especially a pathology career.

PATH 8001  Laboratory Medicine  4 wks  Max: 30
Course Director, Hannis Thompson, M.D., 303-372-0346. Course Coordinator, Theresa Demers, 303-724-3707.
Restrictions: Course offered section 21 only.
This elective gives senior students comprehensive instruction in using laboratory tests. It reviews physiologic and biochemical phenomena on which laboratory tests are based and emphasizes approaches to interpret laboratory data, awareness of indications, and pitfalls of laboratory tests.

PATH 8100  Course Away In Denver  2 - 16 wks
Course Director, Jeffrey T. Holt, M.D., 303-724-4318. Course Coordinator, Theresa Demers, 303-724-3707.
Prerequisites: Departmental approval required and arrangements made one month in advance. Required, a full written course description from the course director at outside institution.
Students ensure a written evaluation is mailed to Course Director who will assign the final grade.

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<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Duration</th>
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<td>PATH 8200</td>
<td>Course Away In Colorado</td>
<td>2 - 16 wks</td>
<td>Course description same as Path 8100.</td>
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<tr>
<td>Path 8300</td>
<td>Course Away Outside Colo</td>
<td>4 - 16 wks</td>
<td>Course description same as Path 8100.</td>
</tr>
<tr>
<td>PATH 8400</td>
<td>Course Away Outside U.S.</td>
<td>4 - 16 wks</td>
<td>Course Director, Jeffrey T. Holt, M.D. Course Coordinator, Theresa Demers, 303-724-3707. Prerequisites: Approval from the Associate Dean for Student Affairs and course director required to register. Course description same as PATH 8100. Planning consultation is available through the Medical Student International Program.</td>
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<tr>
<td>PATH 8600</td>
<td>Research in Pathology</td>
<td>2 - 12 wks</td>
<td>Prerequisites: Department approval must be obtained and all arrangements made at least one month in advance. The student must also receive approval from the Associate Dean for Student Affairs.</td>
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<td>Path 8630</td>
<td>Research Path Outside CO</td>
<td>4 - 12 wks</td>
<td>Course Description same as Path 8600.</td>
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<tr>
<td>Path 8640</td>
<td>Research Path Out of U.S.</td>
<td>4 - 12 wks</td>
<td>Course Description same as Path 8600.</td>
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**PEDIATRIC ELECTIVES**

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<th>Max</th>
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<tr>
<td>PED 8000</td>
<td>Pediatric Subinternship</td>
<td>4 wks</td>
<td>3</td>
<td>Co-Course Directors, Adam, Rosenberg, M.D. and Shale Wong, M.D. Course Coordinator, Brenda Lovato, 720-777-6867. Restrictions: A 2-month advance notice is required to drop this course. Designed for those students who are interested in further training in pediatrics. Students will be integrated as a functional member of a pediatric ward team.</td>
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<tr>
<td>PED 8004</td>
<td>Pediatric Cardiology</td>
<td>4 wks</td>
<td>1</td>
<td>Co-Course Directors, Michael Schaffer, M.D. and Shale Wong, M.D. Course Coordinator, Brenda Lovato, 720-777-6867. Evaluation of children with heart disease by history, physical examination, electrocardiography, roentgenography, echocardiography, and cardiac catheterization will be stressed. The student will make rounds with the cardiology team, see consults, attend outpatient clinics, and participate in cardiac catheterizations and conferences.</td>
</tr>
<tr>
<td>PED 8006</td>
<td>Immunology and Allergy</td>
<td>4 wks</td>
<td>2</td>
<td>Co-Course Directors, Donald Leung, M.D. and Shale Wong, M.D. Course Coordinator, Brenda Lovato, 720-777-6867. The student is assigned to a pediatric allergy attending; share in the care of NJC outpatients, attend lectures, rounds, conferences. Patient responsibility delegated by attending commensurate with the student’s interest/ability. Opportunities provided to observe laboratory procedures in immunology/pulmonary physiology laboratories.</td>
</tr>
<tr>
<td>PED 8007</td>
<td>Child Abuse and Neglect</td>
<td>4 wks</td>
<td>1</td>
<td>Co-Course Directors, Andrew Sirotnak, M.D. and Shale Wong, M.D. Course Coordinator, Brenda Lovato, 720-777-6867. Restrictions: not available sections 21-24. Held at TCH and Kempe Center. Basic principles of Child Abuse and Neglect; participate in team evaluation of outpatient and inpatient child abuse cases, and attend court with team members. Primarily observational and includes independent study. One case write-up required.</td>
</tr>
<tr>
<td>PED 8008</td>
<td>Birth Defects/ Genetics</td>
<td>4, 6, 8, or 12 wks</td>
<td>1</td>
<td>Co-Course Directors, Anne Tsai, M.D. and Shale Wong, M.D. Course Coordinator, Brenda Lovato, 720-777-6867. Rotation includes experience in the General Genetics, Inherited Metabolic Diseases, Muscle, Neuromuscular and outreach clinics. Students will participate in diagnosis, pedigree assessment and management. Students will participate in consultations with faculty, attend conferences, visit laboratories; an oral presentation is required.</td>
</tr>
<tr>
<td>PED 8009</td>
<td>Peds Infectious Disease</td>
<td>4 wks</td>
<td>1</td>
<td>Co-Course Directors, Mary Glode, M.D. and Shale Wong, M.D. Course Coordinator, Brenda Lovato, 720-777-6867. This course provides experience in the pathophysiology, diagnosis, and therapy of childhood infections. Students evaluate in-patients and present cases at daily teaching rounds. Experience in the diagnostic Microbiology laboratory is provided. There is a weekly HIV/infectious diseases clinic.</td>
</tr>
</tbody>
</table>
**PED 8011  Peds Pulmonary Disease  4 or 6 wks  Max: 1**  
Co-Course Directors, Shale Wong, M.D. and Gwen Kerby, M.D. Course Coordinator, Brenda Lovato, 720-777-6867.  
Basic background knowledge in pediatric pulmonary physiology and disease will be provided. The student will attend rounds, clinics, and weekly conferences and participate in hospital consultations. Students will be expected to present a seminar/case discussion on a pediatric pulmonary topic.

**PED 8012  Pediatric Neurology  4, 6, or 12 wks  Max: 1**  
Co-Course Directors, Julie Parsons, M.D. and Shale Wong, M.D. Course Coordinator, Brenda Lovato, 720-777-6867.  
Child Neurology provides students with the opportunity to gain experience evaluating children with a wide variety of neurological problems. Students will round on hospital and clinic patients, complete assigned readings and attend Neurology grand rounds.

**PED 8013  Pediatric Endocrinology  4 wks  Max: 2**  
Co-Course Directors, Michael Kappy, M.D. and Shale Wong, M.D. Course Coordinator, Brenda Lovato, 720-777-6867.  
A large variety of patients with abnormalities of growth and pubertal development, thyroid disorders, and diabetes mellitus are reviewed and treated each week. Seminars on selected topics are scheduled three times per week.

**PED 8015  Peds Neonatology Sub I  4 wks  Max: 3**  
Co-Course Directors, Elizabeth Thilo, M.D. and Shale Wong, M.D. Course Coordinator, Brenda Lovato, 720-777-6867.  
Student assigned to UCH, DHMC, or TCH and will participate actively in the care of critically-ill infants including work rounds, attending rounds, conferences and night call. Experience will be gained in procedures and ventilator management.

**PED 8017  Sub I Ambulatory DHMC  4 wks  Max: 1**  
Co-Course Directors, Simon Hambidge, M.D. and Shale Wong, M.D. Course Coordinator, Brenda Lovato, 720-777-6867.  
A challenging and well-rounded clinical experience in an urban pediatric urgent care clinic. Students will learn how to care for sick and injured children. Spanish language skills are a plus. Some evening and weekend shifts are required.

**PED 8018  General Academic Peds  4 wks  Max: 1**  
Co-Course Directors, David Fox, M.D. and Shale Wong, M.D. Course Coordinator, Brenda Lovato, 720-777-6867.  
This course offers exciting experience in ambulatory pediatrics at The Children’s Hospital. There are 9 educational conferences per week. No night call.

**PED 8020  Adolescent Medicine  4 wks  Max: 1**  
Co-Course Directors, Paritosh Kaul, M.D. and Shale Wong, M.D. Course Coordinator, Brenda Lovato, 720-777-6867.  
Provides basic knowledge and clinical skills in diagnosis and management of medical problems during adolescence. Including development of skills in interviewing and counseling adolescents in various health care settings. Students will prepare and present a seminar/case discussion on this topic.

**PED 8022  Peds Gastroenterology  4 wks  Max: 1**  
Co-Course Directors, Edward Hoffenberg, M.D. and Shale Wong, M.D. Course Coordinator, Brenda Lovato, 720-777-6867.  
Restrictions: not available section 9.  
Clinical rotation on pediatric gastroenterology outpatient service and procedure unit and scheduled conferences. This rotation is designed for students with a specific interest in pediatrics and/or gastroenterology. Research and inpatient experiences available upon advance request.

**PED 8024  Child Development/Behavior  2 or 4 wks  Max: 1**  
Co-Course Directors, Ann Reynolds, M.D. and Shale Wong, M.D. Course Coordinator, Brenda Lovato, 720-777-6867.  
Medicals students will participate in the medical assessment and treatment of children with developmental and behavioral problems. They will attend lectures, participate in the seminars, and observe multidisciplinary assessments of children with developmental disorders.

**PED 8025  Peds Emergency Medicine  4 wks  Max: 1**  
Co-Course Directors, Tien Vu, M.D. and Shale Wong, M.D. Course Coordinator, Brenda Lovato, 720-777-6867.  
Students gain experience in assessment/management of common conditions in a pediatric emergency department including minor emergencies, acutely ill children, traumatic diagnoses. Procedural experience at student’s level, and at attending’s discretion, will also be gained.

**PED 8026  Pediatric Nephrology  4 wks  Max: 1**  
Co-Course Directors, Gary Lum, M.D. and Shale Wong, M.D. Course Coordinator, Brenda Lovato, 720-777-6867.  
Students will actively participate in the care and evaluation of patients under the direction of the attending and participating resident. Common problems such as hematuria, proteinuria, electrolyte disturbances, chronic renal insufficiency, hypertension, hemodialysis, peritoneal dialysis, and renal transplantation are addressed.

**PED 8027  Pediatric Intensive Care  4 wks  Max: 1**  
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The sub-intern is responsible for evaluation and continuing care of patients under the supervision of a Fellow and Attending. The student will learn basic pathophysiology of critical illness and enhance skills in reporting and interpreting clinical data, and patient management.

**PED 8029  Breastfeeding Management**  
2 wks  
Max: 2  
Course Directors, Nancy Krebs, M.D. and Maya Bunik, M.D., 720-777-3890.  
An introduction to breastfeeding as a medical topic, with precepting by lactation specialists at clinical sites and self-directed learning through complementary activities. Assessment and management of mother/infant breastfeeding dyad is emphasized. Contact Dr. Bunik two weeks before start.

**PED 8030  Vaccination in Pediatrics**  
4 wks  
Max: 2  
Course Director, Robert Brayden, M.D., Course Coordinator, Barbara Stucky, 720-777-6562.  
Prerequisite: MS III Pediatric Rotation.  
Students develop extensive knowledge in ambulatory general pediatrics with an emphasis on vaccine preventable diseases. Experiences include didactics on vaccination, vaccine screening, advocacy, and report writing. Exposure to laboratory vaccine research supported but requires availability.

**PED 8100  Course Away in Denver**  
2 - 16 wks  
Course Director, Shale Wong, M.D. Course Coordinator, Brenda Lovato, 720-777-6867.  
Restrictions: Sections 49-50 not available.  
Prerequisites: Departmental approval required and arrangements made one month in advance.  
Students obtain course evaluations from on-site instructor and must have evaluation mailed to the student coordinator.

**PED 8200  Course Away in Colorado**  
2 - 16 wks  
Restrictions: Sections 49-50 not available.  
Course description same as PED 8100.

**PED 8300  Course Away Outside Colo**  
2 - 16 wks  
Restrictions: Sections 49-50 not available.  
Course description same as PED 8100.

**PED 8400  Course Away Outside U.S.**  
4 - 16 wks  
Restrictions: Sections 49-50 not available.  
Prerequisites: Program must be discussed with Dr. Shale Wong (720-777-6867) before registration. Department approval must be made one semester in advance of rotation. Approval from the Associate Dean for Student Affairs also required.

**PED 8600  Research in Pediatrics**  
2 - 12 wks  
Course Director, Shale Wong, M.D. Course Coordinator, Brenda Lovato, 720-777-6867.  
Restrictions: Sections 49-50 not available.  
Prerequisites: Student must receive Departmental approval one semester in advance of rotation. Approval from the Associate Dean for Student Affairs also required.

**PED 8630  Research Peds Outside CO**  
4 - 12 wks  
Restrictions: Sections 49-50 not available.  
Course description same as PED 8600.

**PED 8640  Research Peds Out Of U.S**  
4 - 12 wks  
Restrictions: Sections 49-50 not available.  
Course description same as PED 8600.

**PHMD 8000  Physical Med & Rehab**  
4 wks  
Max: 4  
Course Director, William Sullivan, M.D. Course Coordinator, Vy Malcik, 303-724-1263.  
This elective provides experience in the diagnosis and treatment of patients with pathology of the neurologic and musculoskeletal systems. 4 different locations (VA, Denver Health, University Hospital, The Children's Hospital) allow treatment of a variety of conditions related to rehabilitation.

**PHMD 8100  Course Away In Denver**  
2 - 8 wks  
Course Director, William Sullivan, M.D. Course Coordinator, Vy Malcik, 303-724-1263.  
Prerequisite: PHMD 8000. Department approval must be obtained at least one month in advance.  
Clinical experience in Physical Medicine and Rehabilitation, inpatient and/or outpatient. Written evaluation must be sent by individual instructor, with course Director responsible for final grade.
PHMD 8200   **Course Away In Colorado**  
Course description and requirements same as PHMD 8100.

PHMD 8300   **Course Away Outside Colo**  
4 - 8 wks  
Same as PHMD 8100 with prior approval but no prerequisite PHMD 8000 (although recommended) if visiting an ACGME accredited residency program.

PHMD 8600   **Research Physical Med**  
2 - 12 wks  
Course Director, William Sullivan, M.D. Course Coordinator, Vy Malcik, 303-724-1263.  
Prerequisite: PHMD 8000. Obtain departmental approval and all arrangements made at least one month in advance and prior approval from Associate Dean for Student Affairs.  
Written evaluation must be sent by individual instructor, with course director responsible for final grade.

PHMD 8630   **Research PHMD Outside CO**  
4 - 12 wks  
Same as PHMD 8600 with prerequisite PHMD 8000 or 8300.

PHMD 8640   **Research PHMD Out Of U.S**  
4 - 12 wks  
Course description and requirements same as PHMD 8630

### PREVENTIVE MEDICINE ELECTIVES

**PRMD 8003 Specialty Preventive Med**  
4 - 8 wks  
Max: 4  
Course Director, Tim Byers, M.D., M.P.H., 303-724-1283.  
Prerequisite: Course Director approval required to add course.  
Designed for students interested in exploring the field of preventive medicine. Tailored educational experiences in the Denver area in a variety of settings. Speak with the course director to design this elective.

**PRMD 8006 Dir Study Ethics/Humanit**  
2 - 8 wks  
Course Director, Jacqueline Glover, Ph.D., 303-315-6093.  
Prerequisite: Course Director approval required to add course.  
Selected students may participate in directed scholarly work in Bioethics and Medical Humanities with specific faculty members. Opportunities such as directed literature reviews, clinical research projects, curriculum development projects, and other scholarly activities are available.

**PRMD 8100 Course Away In Denver**  
2 - 12 wks  
Course Director, Tim Byers, M.D., M.P.H., 303-724-1283.  
Prerequisites: Sections 49-50 not available.  
Restrictions: Course Director Approval required one month in advance. Students required to discuss course evaluations with instructor and ensure written evaluation is mailed to Dr. Byers who assigns final grade.

**PRMD 8200 Course Away In Colorado**  
2 - 16 wks  
Course description is the same as PRMD 8100.

**PRMD 8300 Course Away Outside Colo**  
4 - 16 wks  
Course description is the same as PRMD 8100.

**PRMD 8400 Course Away Outside U.S.**  
4 - 16 wks  
Course Director, Tim Byers, M.D., M.P.H., 303-724-1283.  
Prerequisites: Course Director and Associate Dean of Student Affairs approval required to add course.  
Designed for students interested in international preventive medicine. Tailored educational experiences in a variety of settings can be designed with assistance from the Medical Student International Program and the course director.

**PRMD 8600 Research Preventive Med**  
4 - 12 wks  
Course Director, Tim Byers, M.D., M.P.H., 303-724-1283.  
Prerequisites: Course Director and Associate Dean of Student Affairs approval required to add course.  
Designed for students interested in preventive medicine research. Tailored research experiences in the Denver area can be established in a variety of settings. Speak with the course director to design this elective.

**PRMD 8630 Research PRMD Outside CO**  
4 - 12 wks  
Course description and requirements same as PRMD 8600.

**PRMD 8640 Research PRMD Out Of U.S**  
4 - 12 wks  
Course description and requirements same as PRMD 8600.
PSYCHIATRY ELECTIVES

PSCH 8000  Sub I in Psychiatry  4 - 6 wks  Max: 3
Course Director, Michael Weissberg, M.D.; Associate Course Director, Robert Davies, M.D. Course Coordinator, Jennifer White, 303-724-7401.
Direct patient care responsibility. Student selects primary focus in clinical work, such as adult inpatient, child outpatient, emergency room, inpatient consultations, V.A., community psychiatry. Student receives supervision, attends rounds, teaching conferences. Three weeks before beginning, contact Jennifer White, at 303-724-7401.

PSCH 8001 “Big Six” Substance Prob  2 - 4 wks  Max: 2
Course Director, Thomas J. Crowley, M.D. Course Coordinator, Elisa Upwood, ext. 303-315-0162.
Prerequisites: Course Director approval required to add course.
In treatment programs, experts’ tutorials, and readings, students learn approaches to 6 common primary-care substance problems, such as addiction in pain disorders, pregnancy, smoking with tobacco-induced illness, and substance involved adolescents. Students write a paper on the 6 clinical problems.

PSCH 8100  Course Away In Denver  2 - 8 wks
Course Director, Michael Weissberg, M.D.; Associate Course Director, Robert Davies, M.D. Course Coordinator, Jennifer White, 303-724-7401.
Prerequisites: Department approval required. Arrangements must be made one semester in advance.
Students are required to discuss course evaluations with instructor and ensure written evaluation is mailed to Dr. Weissberg, c/o Jennifer White, Mail Stop F-546. Dr. Weissberg assigns final grade.

PSCH 8200  Course Away In Colorado  2 - 8 wks
Course description and requirements same as PSCH 8100.

PSCH 8300  Course Away Outside Colo  4 - 8 wks
Course description same as PSCH 8100.

PSCH 8400  Course Away Outside U.S.  4 - 8 wks
Prerequisites: The student must receive prior approval from the Associate Dean for Student Affairs and course director to add course.
Course description same as PSCH 8100. Planning consultation is available through the Medical Student International Program.

PSCH 8600  Research in Psychiatry  2 - 12 wks  Max: 3
Course Director, Michael Weissberg, M.D.; Associate Course Director, Robert Davies, M.D. Course Coordinator, Jennifer White, 303-724-7401.
Prerequisites: The student must receive prior approval from the Associate Dean for Student Affairs and the course director to add course.
Research electives in various areas of Psychiatry including child and infant.

PSCH 8610  Research Drug/Alcohol  2 - 12 wks  Max: 2
Course Director, Thomas J. Crowley, M.D. Course Coordinator, Elisa Upwood, 303-315-0162.
Prerequisite: Course Director approval required to add course.
Regarding substance dependence our faculty studies: phenotypic descriptions, adolescent-onset genetics, comorbid conduct disorder and ADHD, brain imaging, stopping HIV spread, and clinical trials. Literature reviews, data collection, analysis, and writing of scientific papers are emphasized.

PSCH 8630  Research PSCH Outside CO  4 - 12 wks
Course Director, Michael Weissberg, M.D.; Associate Course Director, Robert Davies, M.D. Course Coordinator, Jennifer White, 303-724-7401.
Prerequisites: Departmental approval must be obtained and all arrangements made one semester in advance. The student must also receive approval from the Associate Dean for Student Affairs.

PSCH 8640  Research PSCH Out Of U.S  4 - 12 wks
Course description and requirements same as PSCH 8630.

RADIOLOGY ELECTIVES

RAD 8000  Diagnostic Radiology  4 wks  Max: 5
Course Director, Carol M. Rumack, M.D. Course Coordinator, Elizabeth Pae, 303-724-1981.
Restrictions: Course not available sections 29 and 33.
An introduction to the interpretation of images and the role of diagnostic imaging in patient care. Clinical observation, lectures, and independent study at UH/AOP. Only 2 days of absence permitted for any reason.
RAD 8002 Nuclear Medicine  4 wks  Max: 2
Course Director, Jackie Howard, M.D.  Course Coordinator, Elizabeth Pae, 303-724-1981.
Nuclear Medicine encompasses the various uses of radioactive compounds in medical diagnosis and therapy.
Students participate in the supervision and interpretation of nuclear medicine procedures under the guidance of the
staff/residents at the AOP.  Students will attend daily conferences.

RAD 8007 Interventional Radiology  2 - 4 wks  Max: 1
Course Director, Kimi Kondo, D.O.  Course Coordinator, Elizabeth Pae, 303-724-1981.
Interventional Radiology is the treatment of disease conditions using minimally invasive means.  These
procedures are performed with X-rays, US, and CT guidance.  The student will round with the team, participate in
procedures, and attend daily conferences.  Standard student evaluation used.

RAD 8100 Course Away In Denver  2 - 16 wks
Course Director, Carol Rumack, M.D.  Course Coordinator, Elizabeth Pae, 303-724-1981.
Restrictions: Not available sections 49-50.
Prerequisites: For rotation approval, students must first provide name, address, and phone number of preceptor to the
course director.  Students maintain sole responsibility for obtaining written evaluation.  2 week rotation not Honors
eligible.

RAD 8300 Course Away Outside Colo  2 - 16 wks
Course description and requirements are the same as RAD 8100.

RAD 8600 Research in Radiology  2 - 12 wks
Course Director, Carol Rumack, M.D. Course Coordinator, Elizabeth Pae, 303-724-1981.
Prerequisites: Approval from the Associate Dean of Student Affairs required.  The name, address, and phone number of
the preceptor must be given to the course director for final approval.
Students are responsible for obtaining written evaluation.  2 week rotation not Honors eligible.

RAD 8630 Research RAD Outside CO  4 - 12 wks
Course description and requirements are the same as RAD 8600.

RADIATION ONCOLOGY ELECTIVES

RAO 8005 Radiation Oncology  4 - 8 wks  Max: 2
Course Director, Changhu Chen, M.D., M.S., 720-848-0116. Course Coordinator, Collette Cielens, 720-848-0156.
The student will learn the basic tools and techniques of radiation oncology, evaluate patients before and after
treatment, learn specialized exam techniques, participate in consultations and multi-modality cancer treatment planning.
Students will attend and participate in multidisciplinary tumor conferences.

RAO 8100 Course Away In Denver  4 - 8 wks
Course Director, Changhu Chen, M.D., M.S. Course Coordinator, Collette Cielens, 720-848-0156.
Prerequisite: RAO 8005. Departmental approval must be obtained one month in advance.
Students are required to discuss their course evaluation with their individual instructor and ensure that the
written evaluation is mailed to Dr. Changhu Chen.

RAO 8200 Course Away In Colorado  4 - 8 wks
Course description same as for RAO 8100.

RAO 8300 Course Away Outside Colo  4 - 8 wks
Course description same as for RAO 8100.

RAO 8400 Course Away Outside U.S.  4 - 8 wks
Course description same as for RAO 8100. The student must receive prior approval from the Associate Dean
for Student Affairs.

RAO 8600 Research RAD Oncology  4 - 12 wks
Course Director, Changhu Chen, M.D., M.S. Course Coordinator, Collette Cielens, 720-848-0156.
Prerequisite: RAO 8005. Departmental and Associate Dean of Student Affairs approval must be obtained and all
arrangements made one semester in advance.
This elective is designed to acquaint the student with current research developments, knowledge and
techniques in radiation oncology.

RAO 8630 Res RAD ONC Out Of Colo  4 - 12 wks
Course description same as RAO 8600.

RAO 8640 Res RAD ONC Out Of U.S.  4 - 12 wks
Course description same as RAO 8600.
# SURGERY ELECTIVES

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Duration</th>
<th>Max.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SURG 8000</td>
<td>Gen Surg Sub I Univ Hosp</td>
<td>4 - 12 wks</td>
<td>4</td>
<td>Students perform intern responsibilities on General Surgical Service at University of Colorado Hospital. Students alternate night call, write orders on assigned patients, and participate in preoperative, operative and postoperative care of inpatients.</td>
</tr>
<tr>
<td>SURG 8001</td>
<td>Gen Surg Sub I DHMC</td>
<td>4 or 6 wks</td>
<td>3</td>
<td>Students join an Acute Care Surgery Team at a Level I Trauma Center. Course emphasizes pre-operative evaluation, operating room decisions and postoperative care outside the ICU. Students attend clinics, rounds, and surgical procedures.</td>
</tr>
<tr>
<td>SURG 8002</td>
<td>Gen Surg Sub I St Joseph</td>
<td>4 wks</td>
<td>2</td>
<td>Students alternate night call, write orders on assigned patients, and participate in preoperative, operative and postoperative care of inpatients.</td>
</tr>
<tr>
<td>SURG 8004</td>
<td>Emergency Med Univ Hosp</td>
<td>4 wks</td>
<td>4</td>
<td>Students are primary caregivers in a Level II trauma center with a variety of patients and individual teaching time with attendings and senior residents. An excellent experience for students seeking instruction in the assessment and management of the undifferentiated patient.</td>
</tr>
<tr>
<td>SURG 8005</td>
<td>Emergency Medicine DHMC</td>
<td>4 wks</td>
<td>1</td>
<td>Students are primary caregivers for acutely ill/injured patients at DHMC Emergency Department, supervised by Emergency Medicine Staff. Daily lectures in traumatic/medical emergencies, conferences, “board rounds”. Orientation, first day, 7:15 am., Admin Conf. room.</td>
</tr>
<tr>
<td>SURG 8006</td>
<td>Emer Med Career Elective</td>
<td>4 wks</td>
<td>3</td>
<td>Same as Surg 8005 and directed for students applying to EM Residencies. Mentors assigned/work 4-5 shifts directly with student, discuss EM as a career, CV, personal statement, counsel regarding application/match process for residency. Ambulance ride-along.</td>
</tr>
<tr>
<td>SURG 8008</td>
<td>Cardiothoracic Surg Sub</td>
<td>4 wks</td>
<td>2</td>
<td>Students participate in preoperative, operative and postoperative care.</td>
</tr>
<tr>
<td>SURG 8010</td>
<td>Burn Critical Care/Surg</td>
<td>4 or 6 wks</td>
<td>1</td>
<td>Course Director, Gordon K. Lindberg, M.D., Ph.D., 303-724-2727. Course Coordinator, Randall Streifert, 303-724-2727. Acting sub-intern on Burn Service, working with Burn and related Surgical Critical Care cases. A high level of patient care responsibility, including bedside procedures, burn care and line charges. Work with attending faculty, and gain a multidisciplinary approach to burns.</td>
</tr>
<tr>
<td>SURG 8011</td>
<td>Hand Surgery</td>
<td>4 wks</td>
<td>1</td>
<td>Course Director, Michael J. V. Gordon, M.D. Course Coordinator, Lori Morell, 720-848-2721. The students will participate in all aspects of the hand service including the emergency room, outpatient clinics, inpatient/outpatient operative and non-operative treatment. Emphasis is on acute hand and upper extremity diseases, trauma, their treatment and rehabilitation.</td>
</tr>
<tr>
<td>SURG 8012</td>
<td>Urology Subinternship</td>
<td>2 or 4 wks</td>
<td>4</td>
<td>Course Director, Robert Donohue, M.D., 303-724-2712. Course Coordinator, Tasha Mitchell, 303-724-2712. All students are required to rotate at hospitals, participate and perform physical exams, follow-up, clinic, and surgeries. All Urology Conferences are mandatory. The Chief Resident, under supervision of the Attending, guides educational experiences. Four week course is considered a sub-internship.</td>
</tr>
<tr>
<td>SURG 8015</td>
<td>Pediatric Surgery</td>
<td>2, 4, or 6 wks</td>
<td>1</td>
<td>Course Director, Frederick Karrer, M.D., Course Coordinator, Kathy Politis, 720-777-6571 at TCH.</td>
</tr>
</tbody>
</table>
Student will assume major clinical responsibility for pediat ric surgical patients, will work with housestaff, share patient care and work-ups, act as liaison to families, attend operations and teaching conferences, and actively participate in the surgical management of infants and children.

SURG 8020  Vascular Surg Research  4 - 12 wks
Course Director, Mark Nehler, M.D., 303-724-2698. Course Coordinator, Janice Frary, 303-724-2681.
Students work in Vascular Diagnostic Laboratory to learn problems of vascular surgical research, tests used, and test interpretations. Responsible for at least one research project, either an original investigation or as part of an ongoing investigation.

SURG 8021  Surgical Critical Care  4, 6 or 8 wks  Max: 2
Course Director, Jeffrey Kashuk, M.D., 303-436-5842. Course Coordinator, Jo Fields, 303-436-5842.
Assigned to surgical ICU, work with critical care residents, fellow and staff. Students gain experience in resuscitation, hemodynamic monitoring, mechanical ventilation, nutritional support, bedside ultrasound and all aspects in care of critically ill surgical patients.

SURG 8024  Clinical Toxicology  4 wks  Max: 3
Course Director, Kennon Heard, M.D., 303-739-1264. Course Coordinator, Becky Holmes, 303-739-1240.
Introduction to medical toxicology at Rocky Mountain Poison and Drug Center. Participation in clinical service, inpatient consultative care at DHMC/UH. Conferences and didactic instruction provided weekly. Short presentations required. Exposed to fundamentals of environmental toxicology, public health concerns and occupational toxicology.

SURG 8030  Clinical Transplantation  2 - 4 wks  Max: 3
Course Director, Michael Wachs, M.D., 720-848-0833. Course Coordinator, Jody Mandic, 720-848-0852.
Medical student will round with transplant team, which includes: Surgeons, Nephrologists, and Hepatologists. They will be exposed to all aspects of transplant care including preoperative work up, donor surgery, transplant surgery, post-operative care.

SURG 8031  Wilderness Medicine  2 wks  Min:10/Max:20
Course Directors, Barbara Blok, M.D. and Kelly Bookman, M.D. Course Coordinator, Cathy Maciel, 720-848-6777.
Course Restrictions: Must be a 4th year University of Colorado School of Medicine student in good academic standing. Not available to externs. Variable fee.
Course offered sections 47 and 48 only.
Students will attend lectures on wilderness medicine topics and then practice those scenarios in wilderness settings. The course will spend the first week near Estes Park and the second week near Moab, UT. Additional fee to cover food and lodging.

SURG 8100  Course Away In Denver  2 - 16 wks
Course Director, Thomas A. Whitehill, M.D., 303-724-2696. Course Coordinator, Janice Frary, 303-724-2681.
Prerequisites: Departmental approval must be obtained and all arrangements made one month in advance.
Students are required to discuss their course evaluations with their preceptor(s) and ensure that the written evaluation is mailed to Dr. Whitehill, who assigns the final grade.

SURG 8200  Course Away In Colorado  2 - 16 wks
Restrictions: Sections 49-50 not available.
Course description and requirements same as SURG 8100.

SURG 8300  Course Away Outside Colo  4 - 16 wks
Restrictions: Sections 49-50 not available.
Course description and requirements same as SURG 8100.

SURG 8400  Course Away Outside U.S.  2 - 16 wks
Course Director, Thomas A. Whitehill, M.D., 303-724-2696. Course Coordinator, Janice Frary, 303-724-2681.
Restrictions: Sections 49-50 not available.
Prerequisites: Students must receive prior approval from the Associate Dean for Student Affairs and course director to add course.
Course description same as Surg 8100. Planning consultation is available through the Medical Student International Program.

SURG 8600  Research in Surgery  2 - 12 wks
Course Director, Thomas A. Whitehill, M.D., 303-724-2696. Course Coordinator, Janice Frary, 303-724-2681.
Prerequisites: The student must receive prior approval from the Associate Dean for Student Affairs and course director to add course.
Contact department for further course information.

SURG 8630  Research Surg Outside Colo  4 - 12 wks
Course Director, Thomas A. Whitehill, M.D., 303-724-2696. Course Coordinator, Janice Frary, 303-724-2681.
Restrictions: Sections 49-50 not available.
Prerequisites: Departmental approval must be obtained and all arrangements made one semester in advance.
Student must receive approval from the Associate Dean for Student Affairs.
SURG 8640 Research Surg Out Of U.S

Restrictions: Sections 49-50 not available.

Prerequisites: Departmental approval must be obtained and all arrangements made one semester in advance.

Student must receive approval from the Associate Dean for Student Affairs.
# Physical Therapy Program

## Doctor of Physical Therapy (DPT) Courses

### Entry Level DPT

#### FIRST YEAR, Summer Semester

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>DPTR 5001</td>
<td>Clinical Anatomy I</td>
<td>5.0 cr.</td>
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<tr>
<td></td>
<td>N. Bookstein, PT, EdD; D. James, PT, MS</td>
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<tr>
<td></td>
<td>Prereq: matriculation in entry-level Physical Therapy Program.</td>
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<tr>
<td></td>
<td>Regional approach to in-depth study of structural and functional anatomy of the musculoskeletal, vascular, lymphatic, and nervous system anatomy of the appendicular skeleton, body walls, thorax, head and neck. Includes cross sectional and radiographical anatomy. Soft tissue palpation is emphasized.</td>
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<tr>
<td>DPTR 5002</td>
<td>Foundations in PT</td>
<td>2.0 cr.</td>
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<td></td>
<td>J. Rodriguez, PT, MHS</td>
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<td></td>
<td>Introduction to foundational elements of physical therapy, including movement, patient/client centered care, professionalism, evidence-based practice, and disablement/enablement/quality of life. Work with community volunteers to apply concepts to real situations and explore accessibility issues.</td>
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</tr>
<tr>
<td>DPTR 5003</td>
<td>Histology</td>
<td>2.0 cr.</td>
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<td></td>
<td>R. O’Hara, PT, MS; K. Maluf, PT, PhD</td>
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<tr>
<td></td>
<td>Study of cells and tissues of the human body with emphasis on normal function followed by the tissue/structure response in disease, injury and repair. Emphasis on integument, nerve, and musculoskeletal structures, including basic mechanical properties of the latter.</td>
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<tr>
<td>DPTR 5111</td>
<td>Exercise Science</td>
<td>2.0 cr.</td>
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<tr>
<td></td>
<td>E. Melanson, PhD</td>
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<tr>
<td></td>
<td>Discussion of the effect of exercise on physiologic systems, including measurement of exercise capacity in the clinic and laboratory and the effect of exercise on cardiovascular and pulmonary performance.</td>
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<tr>
<td>DPTR 5201</td>
<td>Clin Skills Exam/Eval I</td>
<td>1.0 cr.</td>
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<tr>
<td></td>
<td>D. Stelzner, PT, MBA</td>
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<tr>
<td></td>
<td>Introduction to the process of obtaining a history, performing a systems review and selecting and administering tests and measures to gather data about the patient. Beginning of the examination process with an overview of the patient’s functional ability.</td>
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</table>

#### FIRST YEAR, Fall Semester

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>DPTR 5101</td>
<td>Movement Science I</td>
<td>3.0 cr.</td>
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<td></td>
<td>PT Faculty  Prereq: DPTR 5001.</td>
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<tr>
<td></td>
<td>Investigation of movement science, with emphasis on biomechanical principles, related to human posture and movement. Observational analysis of functional movement tasks including normal gait, abnormal gait. Explanation of observational movement analysis with kinematics and kinetics measured with instrumentation.</td>
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<tr>
<td>DPTR 5141</td>
<td>Human Growth/Development</td>
<td>2.0 cr.</td>
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<tr>
<td></td>
<td>A. Bodkin, PT, MS</td>
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<td></td>
<td>Functional movement across the life span. Emphasis on periods of greatest changes in motor behavior. Exploration of factors influencing functional movement, including developmental changes in body systems, physical fitness and activity level. Analysis of movement throughout the life span.</td>
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<tr>
<td>DPTR 5151</td>
<td>Motor Control Learning</td>
<td>2.0 cr.</td>
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<tr>
<td></td>
<td>J. Valvano, PT, PhD</td>
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<tr>
<td></td>
<td>Application of current principles of motor learning and motor control to activity-focused physical therapy interventions. Emphasis on variables related to task composition and schedule, the environment, and augmented information that enhance practice of motor skills.</td>
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</tr>
<tr>
<td>DPTR 5161</td>
<td>Psychosoc Aspects Care I</td>
<td>1.0 cr.</td>
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<tr>
<td></td>
<td>D. Stelzner, PT, MBA</td>
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<tr>
<td></td>
<td>Principles of human interaction beginning with discussion of one’s self followed by clarification of the dynamics involved in professional-patient caring relationships.</td>
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<tr>
<td>DPTR 5202</td>
<td>Clin Skills Exam/Eval II</td>
<td>2.0 cr.</td>
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<tr>
<td></td>
<td>D. Stelzner, PT, MBA Prereq: DPTR 5001, DPTR 5201.</td>
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</tr>
</tbody>
</table>
Continuation of examination process including advanced movement tests. Progression to dynamic process of making clinical judgments based on data gathered from the examination. Introduction of the process of diagnosis by organizing into defined syndromes or categories of examination results.

**DPTR 5203  Clin Skills Ther Interv**  
4.0 cr.  
S. Jordan, PT, MA  
Introduction to therapeutic intervention skills, such as basic mobility with and without assistive devices, posture and positioning, therapeutic exercise principles and techniques, soft tissue mobilization, therapeutic modalities, for improving functional mobility and for managing a variety of clinical problems.

**DPTR 5601  Scientific Inquiry I**  
1.0 cr.  
J. Hebert, PT, MS  
Course designed to introduce students to concepts and approaches to evidence-based practice including effective searching and reviewing literature materials. Observational study designs (cohort, case-control, and cross-sectional) covered, including evaluative tests and measures for diagnostic tests.

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**FIRST YEAR, Spring Semester**

**DPTR 5006  Physiology**  
2.0 cr.  
W. Betz, PhD  
Fundamentals of human physiology from basic cellular processes such as membrane support, to the organization and control of organ systems.

**DPTR 5011  Neuroscience**  
3.0 cr.  
R. Gisbert, MSPT; M. Schenkman, PT, PhD  
Principles of neurophysiology and neuroanatomy introduced. Blood supply, three dimensional topography of the nervous system, sensory and motor tracks of the spinal cord and brainstem, major structures and functions of the diencephalon and cortex are included. Functional correlates are discussed.

**DPTR 5162  Psychosoc Aspect Care II**  
2.0 cr.  
D. Stelzner, PT, MBA  
Prereq: DPTR 5161.  
Continuation of values and caring. Issues related to: health behaviors; grief, mourning and loss; suicide; body image and sexuality; cultural awareness; depression; chronic pain and the diversity in pain management approaches; spirituality and healing; ethical principles, moral reasoning and case analysis.

**DPTR 5301  Medical Conditions I**  
2.0 cr.  
N. Bookstein, PT, EdD  
Prereq: DPTR 5111.  
Pathology and physical therapy management of individuals with cardiovascular, pulmonary, and integumentary disorders across the life span. Exercise testing/training, EKG interpretation, cardiac and pulmonary assessment and intervention, and burn wound care will be addressed.

**DPTR 5401  Musculoskeletal Cond I**  
3.0 cr.  
P. Mintken, PT, MS, DPT, OCS  
Orthopaedic pathokinesiology of the upper extremity across the life span. Pathogenesis, clinical presentation, medical and surgical management, and rehabilitation of upper extremity orthopaedic disorders. Radiologic and pharmacologic applications with implications for physical therapy intervention.

**DPTR 5611  Patient Care Seminar I**  
2.0 cr.  
T. Struessel, PT, DPT, OCS, MTC  
Critical thinking and clinical decision making skills. Application of clinical decision making frameworks and models for clinical practice. Patients with musculoskeletal and medical conditions across the life span emphasized.

**DPTR 5931  Clinical Education I**  
2.0 cr.  
J. Rodriguez, PT, MHS  
Four week full-time supervised clinical experience. Professional values and behaviors developed, relevant questions raised, knowledge applied, clinical skills practiced.

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**SECOND YEAR, Summer Semester**

**DPTR 6002  Clinical Anatomy II**  
3.0 cr.  
N. Bookstein, PT, EdD  
Prereq: DPTR 5001, DPTR 5101, DPTR 5011.  
Regional approach to in-depth study of structural/functional anatomy of the musculoskeletal, vascular, lymphatic and nervous systems of the axial skeleton, abdomen and pelvis. Specific emphasis on the spine and peripheral joints. Cross sectional and radiographical anatomy emphasized.
DPTR 6102  Movement Science II  1.0 cr.
C. Johnson, PT, CHT  Prereq: DPTR 5001, DPTR 5101.
Continued investigation of analysis of observational and instrumented normal and pathological human posture and movement. Format for developing a functional movement performance battery presented and selected movement tests practiced.

DPTR 6402  Musculoskeletal Cond II  3.0 cr.
P. Mintken, PT, MS, DPT, OCS; A. Bodkin, PT, PhD, PCS  Prereq: DPTR 5001.
Orthopaedic pathokinesiology of the lower extremity across the life span. Pathogenesis, clinical presentation, medical and surgical management, and rehabilitation of lower extremity orthopedic disorders. Radiologic and pharmacologic applications with implications for physical therapy intervention.

DPTR 6501  Neuromuscular Cond I  3.0 cr.
M. Schenkman, PT, PhD; R. Gisbert, MSPT  Prereq: DPTR 5011.
Frameworks and models used to analyze interrelationships of neuropathology, impairments, and functional loss with neurological conditions across the life span (e.g. spinal cord injury, stroke, cerebral palsy). Neuropathology presented. Implications for examination, evaluation (including prognosis, diagnosis, and goals) analyzed.

DPTR 6701  Doctoring Profession  1.0 cr.
M.J. Rapport, PT, PhD  Prereq: DPTR 5701.
Exploration of professional issues including the doctoring profession, professional core values and scope of practice, and connection with the APTA as our professional organization and introduction to legislation and advocacy in health care. Cultural competence is emphasized and explored.

SECOND YEAR, Fall Semester

DPTR 6121  Pharmacology  1.0 cr.
N. Bookstein, PT, EdD
Online course designed to help the learner utilize pharmacological information in planning patient care. Principles of pharmacodynamics and pharmacokinetics precede information regarding mechanisms of action, adverse effects, implications for exercise and other physical therapy interventions for different drug classes included.

DPTR 6205  Clin Skills Pros/Orthos  1.0 cr.
C. Johnson, PT, CHT
Application and integration of diagnostic imaging to physical therapy clinical decision making. Students learn to interpret and evaluate pertinent diagnostic imaging studies and recognize when it may be appropriate to refer patients for further testing. Musculoskeletal pathology emphasized.

DPTR 6403  Musculoskeletal Cond III  4.0 cr.
P. Mintken, PT, MS, DPT, OCS  Prereq: DPTR 5401, DPTR 6402.
Orthopaedic pathokinesiology of the spine across the life span. Pathogenesis, clinical presentation, medical and surgical management, and rehabilitation of spinal orthopedic disorders. Radiologic and pharmacologic applications with implications for physical therapy intervention.

DPTR 6502  Neuromuscular Cond II  3.0 cr.
Principles of PT management for individuals with neurological conditions across the life span. Clinical decision making and clinical skills for examination, evaluation, and intervention with individuals with a variety of neurological disorders (e.g., spinal cord injury, stroke, multiple sclerosis) emphasized.

DPTR 6602  Scientific Inquiry II  2.0 cr.
J. Hebert, PT, MS  Prereq: DPTR 6601.
Experimental and Quasi-experimental study designs (Group and Single Subject) with delineation of the application and analysis of appropriate test statistics (parametric and non-parametric). Survey and qualitative research approaches presented. Application of evidence-based practice continued.

DPTR 6612  Patient Care Seminar II  1.0 cr.
T. Struessel, PT, DPT, OCS, MTC  Prereq: DPTR 6611.
Development of critical thinking and clinical decision making skills across the life span continued. Differential diagnosis, management of individuals with multiple underlying conditions (e.g., musculoskeletal, neuromuscular), and patients with diagnoses that are not specifically addressed in PT management courses emphasized.

DPTR 6911  Field Work I  1.0 cr.
J. Rodriguez, PT, MHS  Prereq: DPTR 6161.
Approximately one half day per week in clinical settings during the summer and fall semesters to continue to develop and apply the knowledge, skills, and behaviors learned in the classroom to real situations working with patients and clients.
SECOND YEAR, Spring Semester

**DPTR 6302  Medical Conditions II**  
3.0 cr.  
A. Nordon-Craft, PT, MA  Prereq: DPTR 5111.  
Pathology and physical therapy management of individuals with oncologic, metabolic, bariatric, rheumatologic, and psychiatric disorders across the life span. Differential diagnosis, screening, and referral to appropriate personnel will be addressed.

**DPTR 6503  Neuromuscular Cond III**  
3.0 cr.  
A. Bodkin, PT, PhD, PCS  Prereq: DPTR 6502.  
Principles of PT management for individuals with neurological conditions continued. The focus of this semester is pediatric neuromuscular conditions.

**DPTR 6603  Scientific Inquiry III**  
2.0 cr.  
J. Hebert, PT, MS  Prereq: DPTR 6602.  
Methods of scientific inquiry and evidence-based practice to analysis of patient care for patients with a variety of conditions and diagnoses applied. Evidence for use of measures and intervention approaches emphasized.

**DPTR 6702  Differential Diagnosis**  
2.0 cr.  
S. Jordan, PT, MA  Prereq: DPTR 5701.  
Differential diagnosis in primary care physical therapy within a collaborative healthcare model. Synthesis of critical thinking and clinical decision making for efficient screening/examination to determine the need for referral to other health providers, for physical therapy management, or both.

**DPTR 6721  Educational Methods**  
1.0 cr.  
M.J. Rapport, PT, PhD  
Application of learning theories and teaching strategies to clinical practice, individual patients and populations. Emphasis on patient/client and family education, including home programs, clinical teaching, and presentations in clinic and community settings.

**DPTR 6912  Field Work II**  
1.0 cr.  
J. Rodríguez, PT, MHS  
Exploration of issues surrounding access to health care, with an emphasis on underserved populations and persons who have limited access. Service project included.

**DPTR 6932  Clinical Education II**  
3.0 cr.  
J. Rodríguez, PT, MHS  
Eight week full-time supervised clinical experience. Experience emphasizes students beginning to make the transition from student or “aide” to taking on the responsibility of the professional physical therapist.

THIRD YEAR, Summer Semester

**DPTR 7112  Applied Exercise Science**  
3.0 cr.  
J. Stevens, PT, PhD  Prereq: DPTR 5111, DPTR 5301, DPTR 6302.  
Complex patients with multi-system disease emphasized. Differential diagnosis, screening and referral to appropriate personnel. Physical therapy management principles of complex medical patients, including exercise prescription, biomechanical principles, and chronic disability issues.

**DPTR 7212  Elective**  
1.0 cr.  
PT Clinical Faculty  
Various topics; provides students with the opportunity to explore selected topics, related to clinical practice, in depth or topics that are outside of the scope of the set curriculum.

**DPTR 7604  Scientific Inquiry IV**  
1.0 cr.  
J. Stevens, PT, PhD  Prereq: DPTR 6603.  
Advanced evaluation of the scientific literature encompassing a diverse selection of research types and designs applied to a variety of patient conditions. Evidence-based practice project completed. Measures and interventions for patients with specific clinical conditions and diagnoses proposed.

**DPTR 7703  Leadership in Practice**  
1.0 cr.  
M.J. Rapport, PT, PhD  Prereq: DPTR 6702.  
More advanced concepts related to doctoring profession and leadership. Role of leaders and leadership in physical therapy and health care. Leadership styles and perspectives, and differences between leadership and management are explored. The steps towards becoming a leader are emphasized.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>DPTR 7711</td>
<td>Health Care Delivery</td>
<td>4.0 cr.</td>
</tr>
<tr>
<td>T. Struessel, PT, DPT, OCS, MTC</td>
<td>Health care systems will be reviewed and discussed with a focus on trends and issues that impact the practice of physical therapy in diverse health care settings. Communication between individuals and across systems will be explored along with team structure and function.</td>
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<tr>
<td>DPTR 7731</td>
<td>Compl/Alternative Med</td>
<td>1.0 cr.</td>
</tr>
<tr>
<td>S. Jordan, PT, MA</td>
<td>Introduction to the major concepts and issues related to complementary and alternative medicine (CAM). Discussions related to incorporating evidence based CAM for effective patient centered care across the life span.</td>
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</tr>
<tr>
<td>DPTR 7741</td>
<td>Special Practice Setting</td>
<td>2.0 cr.</td>
</tr>
<tr>
<td>A. Bodkin, PT, MS; A. Nordon-Craft, PT, MA; C. Johnson, PT, CHT</td>
<td>Exploration of physical therapist’s roles in a variety of practice settings. Legal issues such as Individuals with Disabilities Education Improvement Act and abuse/neglect topics will be discussed.</td>
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**THIRD YEAR, Fall Semester**

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<tr>
<th>Course Code</th>
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<th>Credits</th>
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<tbody>
<tr>
<td>DPTR 7131</td>
<td>Radiology</td>
<td>1.0 cr.</td>
</tr>
<tr>
<td>P. Mintken, PT, MS, DPT, OCS</td>
<td>Study of the application and integration of diagnostic imaging to physical therapy clinical decision making. Provides the physical therapy student with the background to understand diagnostic imaging technology, indication, evaluative value and limitations. Musculoskeletal pathology emphasized.</td>
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<tr>
<td>DPTR 7751</td>
<td>Health Promotion</td>
<td>2.0 cr.</td>
</tr>
<tr>
<td>E. Melanson, PhD; C. Figuers, PT, EdD; C. Jankowski, PhD</td>
<td>Critiquing/designing fitness, wellness and nutrition programs that are appropriate for physical therapy for well populations and people with disabilities across the life span. Focus is on the well elderly and populations with obesity, coronary heart disease, diabetes and cancer.</td>
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</tr>
<tr>
<td>DPTR 7933</td>
<td>Clinical Education III</td>
<td>8.0 cr.</td>
</tr>
<tr>
<td>J. Rodriguez, PT, MHS</td>
<td>Sixteen week full-time supervised clinical experience. Exploration of general or specialty areas of physical therapy practice. Skills developed throughout earlier experiences demonstrated as entry-level competency in physical therapy practice by the end of this experience.</td>
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**THIRD YEAR, Spring Semester**

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<tr>
<th>Course Code</th>
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<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>DPTR 7613</td>
<td>Patient Care Seminar III</td>
<td>2.0 cr.</td>
</tr>
<tr>
<td>T. Struessel, PT, DPT, OCS, MTC</td>
<td>Prereq: DPTR 6612. Critical thinking and clinical decision making skill development continued and applied to patients with complex diagnoses and disorders affecting multiple systems across the life span. Social and emotional disability, participation in leisure, work, and family activities emphasized.</td>
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</tr>
<tr>
<td>DPTR 7934</td>
<td>Clinical Education IV</td>
<td>8.0 cr.</td>
</tr>
<tr>
<td>J. Rodriguez, PT, MHS</td>
<td>Sixteen week full-time supervised clinical experience. Full preparation of students to transition to the work force. Publishable case report prepared by the end of this experience, which is linked to DPTR 7613.</td>
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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>Independent Study</td>
<td>PT Faculty</td>
<td>An Independent Study option is available each semester. This course provides students with an opportunity to pursue content of their own choosing under guidance of a faculty mentor.</td>
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**TRANSITION DPT**

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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>DPTR 8004</td>
<td>Applied Histology</td>
<td>1.0 cr.</td>
</tr>
<tr>
<td>R. O'Hara, PT, MS</td>
<td>This course provides the opportunity for students to learn about histology and concepts of tissue healing as applied to clinical physical therapy practice.</td>
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</tbody>
</table>
DPTR 8111  Evidence-Based Practice  2.0 cr.
J. Valvano, PT, PhD  Prereq: Research knowledge base/course work.
Introduction to principles of evidence-based practice. Application of evidence-based principles to prognosis, diagnosis, and intervention in physical therapy practice. Focus on finding and critically appraising evidence for physical therapy interventions.

DPTR 8112  Professional Development  2.0 cr.
M.J. Rapport, PT, PhD
Study and application of principles of the doctoring profession of physical therapy. Roles of leaders in leadership and management positions in physical therapy and healthcare. Emphasis on plans for ongoing professional growth.

DPTR 8152  Motor Control Learning  1.0 cr.
J. Valvano, PT, PhD
Current concepts in motor control and motor learning relevant to physical therapy practice are reviewed through guided independent study and online tutorials. Emphasis is on updating the theoretical base required for application of these concepts to clinical practice.

DPTR 8211  Patient Care Seminar I  2.0 cr.
M. Schenkman, PT, PhD  Prereq: Research knowledge base/course work. Pre/Coreq: DPTR 8111.
Critical thinking and clinical decision making skills. Application of clinical decision making frameworks and models for clinical practice. Patients with musculoskeletal, neuromuscular, and medical conditions across the life span emphasized.

DPTR 8212  Radiology  1.0 cr.
V. Akuthota, MD; D. James, MSPT, OCS, CSCS
Application and integration of diagnostic imaging to physical therapy clinical decision making. Students learn to interpret and evaluate pertinent diagnostic imaging studies and recognize when it may be appropriate to refer patients for further testing. Musculoskeletal pathology emphasized.

DPTR 8213  Health Promotion  2.0 cr.
E. Melanson, PhD
Critiquing and designing fitness, wellness, and nutrition programs that are appropriate for physical therapy for well populations and people with disabilities. Focus on the well elderly and populations with obesity, coronary heart disease, diabetes, and cancer.

DPTR 8312  Patient Care Seminar II  2.0 cr.
M. Schenkman, PT, PhD  Prereq: DPTR 8211.
Seminar providing students with opportunities to refine critical thinking and clinical decision making skills and to integrate critical issues related to physical therapy care of complex patients. Written and oral presentation of case content emphasized.

DPTR 8313  Pharmacology  1.0 cr.
R. Page, PharmD; T. French, PhD
Online course designed to help the learner utilize pharmacological information in planning patient care. Principles of pharmacodynamics and pharmacokinetics, information regarding mechanisms of action, adverse effects, implications for exercise and other physical therapy interventions for different drug classes included.

DPTR 8314  Differential Diagnosis  2.0 cr.
S. Jordan, PT, MA
This online course encompasses differential diagnosis in primary care physical therapy within a collaborative healthcare model. Synthesis of critical thinking and clinical decision making for efficient screening/examination to determine the need for referral to other health providers, for physical therapy, or both.
### Child Health Associate/Physician Assistant

#### First Year

**Summer Semester**

**MPAS 5100  Human Anatomy**
Dr. N. Bookstein, Ed.D. – 303-315-7963 x3. Max:42  
In-depth study of gross human anatomic structure with emphasis directed to musculoskeletal and neuromuscular systems. Clinical correlates to normal movement and pathological processes will be made.

**MPAS 5201  Psychosoc Asp HC I**
K. Tick, MSW – 303-315-7963 x3. Max:42  
Emphasis is placed on social, emotional and psychological factors affecting pregnancy and parent/newborn relationships. Basic communication skills in organizing an interview and developing a working relationship with parents are stressed. The team approach to comprehensive health care is also discussed.

**MPAS 5400  Physical Diagnosis**
J. Bowser, PA-C – 303-315-7963 x3. Max:42  
This course consists of lectures on physical diagnosis of pediatric, adult and geriatric patients, with an opportunity to practice exam skills during practicum sessions.

**MPAS 5601  Intr to Clin Reasoning**
R. Maldonado, PA-C – 303-315-7963 x3. Max:42  
An introduction to ambulatory medicine in a problem based format. This includes a demonstration of a problem based case, review of comprehensive medical history taking and documentation. Methods of accessing information to assist in solving clinical problems will be presented.

#### Fall Semester

**MPAS 5111  Int Sci Bas to Med I**
M. Hall, PhD – 303-315-7963 x3. Max:40  
This two semester sequence will cover and integrate the principles of biochemistry, physiology and clinical biochemistry. Clinical presentations will be used throughout the course to underscore the relationship between the basic sciences and the clinical presentation of disease.

**MPAS 5120  Medical Microbio**
Dr. M. Abzug – 303-315-7963 x3. Max:40  
Course covers the fundamental properties of pathogenic bacteria, viruses and fungi and the diseases these organisms cause. The various properties of bacteria are correlated with pathogenesis of disease.

**MPAS 5202  Psychosoc Asp HC II**
K. Tick, LCSW – 303-315-7963 x3. Max:40  
Course addresses common psychological concerns seen in the pediatric setting, with special attention to the needs of the handicapped child and his family, child abuse, death, alcoholism, etc. Communication skills which enhance information gathering are discussed. Community resources are investigated.

**MPAS 5300  Assess & Care-Neonate**
Dr. M. Kohn – 303-315-7963 x3. Max:40  
Common neonatal and infant medical problems are presented in preparation for the Lifespan clinical experience, MPAS 5930.

**MPAS 5412  Physical Diagnosis**
J. Bowser, PA-C – 303-315-7963 x3. Max:42  
This course is a continuation of MPAS 5400.

**MPAS 5420  Women's Health**
R. Maldonado, PA-C – 303-315-7963 x3. Max:42  
The course is designed to provide students with basic information about obstetrics and gynecology.

**MPAS 5602  Prob-Bas Amb Med I**
R. Maldonado, PA-C – 303-315-7963 x3. Max:42
This course is a continuation of MPAS 5601. Comprehensive care in ambulatory medicine is covered in a problem-based format. This includes infancy to adulthood, health maintenance and acute illnesses, anticipatory guidance/patient education, diagnosis and treatment and developmental assessment.

MPAS 5901  Community Clinic  
Fall Sem.  2.0 cr.  
Clinical experience designed to give the student an introduction to ambulatory medicine and an understanding of pediatric and family practice medicine. A related small group seminar is designed to discuss this clinical experience.

MPAS 5901  Community Clinic  
Fall Sem.  2.0 cr.  
Clinical experience designed to give the student an introduction to ambulatory medicine and an understanding of pediatric and family practice medicine. A related small group seminar is designed to discuss this clinical experience.

### SPRING SEMESTER*

**MPAS 5112**  Int Sci Bas to Med II  
Spring Sem.  4.0 cr.  
Dr. M. Hall, – 303-315-7963 x3. Max:40  
This course is a continuation of MPAS 5111.

**MPAS 5131**  Gen and Sys Pathol  
Spring Sem.  5.0 cr.  
Dr M. Rizeq, Dr. S. Nawaz – 303-315-7963 x3. Max:40  
Normal cell and tissue structure is correlated with functional aspects. Homeostasis and mechanisms of disease processes are discussed. Mechanisms to be discussed include cell and tissue injury and repair, inflammation, immunopathology, neoplasia, and metabolic and genetic abnormalities.

**MPAS 5140**  Neuroscience  
Spring Sem.  1.0 cr.  
R. Gisbert, PT, MS – 303-315-7963 x3. Max:40  
Principles of neurophysiology and neuroanatomy introduced. Membrane receptors, membrane potentials, synaptic transmission, and neuromuscular junctions, blood supply, three dimensional topography of the nervous system. Functional correlates, and sensory and motor tracks of the spinal cord and brainstem included.

**MPAS 5203**  Psychosoc Asp HC II  
Spring Sem.  2.0 cr.  
K.Tick, LCSW – 303-315-7963 x3. Max:40  
Theories of personality development and basic diagnostic categories of psychopathology are presented. Emphasis is given to ways this knowledge can be applied in working with families in the pediatric clinical setting. Adolescent development is also discussed. Communication skills used in counseling parents and children are stressed.

**MPAS 5220**  Parenting  
Spring Sem.  1.0 cr.  
This small group seminar addresses techniques and approaches to guiding and advising clients in their role as parents.

**MPAS 5603**  Prob-Bas Amb Med II  
Spring Sem.  4.0 cr.  
R. Maldonado, PA-C – Max:42  
This course is a continuation of MPAS 5602. Comprehensive care in ambulatory medicine is covered in a problem-based format. This includes infancy to adulthood, health maintenance and acute illnesses, anticipatory guidance/patient education, diagnosis and treatment and developmental assessment.

**MPAS 5940**  Lifespan Clin Rotn  
Spring Sem.  4.0 cr.  
Students are introduced to the management of infants in the newborn nursery and the care of the geriatric patient in long term care settings such as nursing and assisted living homes.

**PRMO 5000**  Ethics in Hlth Prof I  
Spring Sem.  0.7 cr.  
Course Director, Jackie Glover, Ph.D., 303-724-3992.  
Required two-part course in ethics taught with dental, medical, nursing, pharmacy, physical therapy and physician assistant students. This course includes basic knowledge and skills in ethical theory and reasoning, professional ethics, and inter-professional approaches to health care decision making.

### SECOND YEAR

### FALL SEMESTER*

**MPAS 6101**  Pharmacology  
Fall Sem.  2.0 cr.  
Dr.T. French – 303-315-7963 x3. Max:40  
Discussion of the clinical aspects of drug absorption, metabolism, excretion, and the dynamics of drug action.

**MPAS 6110**  Immunology  
Fall Sem.  1.0 cr.  
Dr. J.J. Cohen – 303-315-7963 x3. Max:42  
Offered in Fall 2009. A comprehensive course of basic and some clinical immunology with the stress on the human immune system.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Semester</th>
<th>Credits</th>
<th>Instructor(s)</th>
<th>Course Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPAS 6201</td>
<td>App Behav Med I</td>
<td>Fall</td>
<td>2.0 cr.</td>
<td>K. Tick, LCSW – 303-315-7963 x3. Max:40</td>
<td>Discussion of emotional, behavioral, psychosomatic and psychiatric problems commonly encountered by physician assistants in primary care settings. Evaluation, management and appropriate referral will be emphasized.</td>
</tr>
<tr>
<td>MPAS 6301</td>
<td>Pediatric Clin Med I</td>
<td>Fall</td>
<td>2.5 cr.</td>
<td>C. Robohm, PA-C – 303-315-7963 x3. Max:42</td>
<td>Discussion of pediatric medical and surgical conditions, including pathophysiology, diagnosis and treatment.</td>
</tr>
<tr>
<td>MPAS 6401</td>
<td>Adult Clin Med I</td>
<td>Fall</td>
<td>2.5 cr.</td>
<td>J. Bowser, PA-C – 303-315-7963 x3. Max:42</td>
<td>Discussion of adult medical and surgical conditions, including pathophysiology, diagnosis and treatment.</td>
</tr>
<tr>
<td>PRMD 6000</td>
<td>Ethics in Hlth Prof II</td>
<td>Fall</td>
<td>0.7 cr.</td>
<td>Course Director, Jackie Glover, Ph.D., 303-315-6093</td>
<td>Required two-part course in ethics taught with dental, medical, nursing, pharmacy, physical therapy and physician assistant students. This course includes basic knowledge and skill in ethical theory and reasoning, professional ethics, and inter-professional approaches to health care decision making.</td>
</tr>
<tr>
<td>MPAS 6102</td>
<td>Pharm for CHA II</td>
<td>Spring</td>
<td>4.0 cr.</td>
<td>Dr. T. French – 303-315-7963 x3. Max:40</td>
<td>This course is a continuation of MPAS 6101.</td>
</tr>
<tr>
<td>MPAS 6202</td>
<td>App Behav Med II</td>
<td>Spring</td>
<td>2.0 cr.</td>
<td>K. Tick, LCSW – 303-315-7963 x3. Max:40</td>
<td>This course is a continuation of MPAS 6201.</td>
</tr>
<tr>
<td>MPAS 6302</td>
<td>Pediatric Clin Med II</td>
<td>Spring</td>
<td>2.5 cr.</td>
<td>C. Robohm, PA-C – 303-315-7963 x3. Max:42</td>
<td>This course is a continuation of MPAS 6301.</td>
</tr>
<tr>
<td>MPAS 6402</td>
<td>Adult Clin Med II</td>
<td>Spring</td>
<td>2.5 cr.</td>
<td>J. Bowser, PA-C - 303-315-7963 X3. Max:42</td>
<td>This course is a continuation of MPAS 6401.</td>
</tr>
<tr>
<td>MPAS 6510</td>
<td>Orthopedics</td>
<td>Spring</td>
<td>1.0 cr.</td>
<td>R. Gierbolini, PA-C – 303-315-7963 x3. Max:40</td>
<td>A discussion of the principles of assessment and management of orthopedic problems for physician assistants in primary care. Laboratory sessions will provide an opportunity to practice orthopedic examinations and management techniques.</td>
</tr>
<tr>
<td>MPAS 6702</td>
<td>Evid Bas Med II</td>
<td>Spring</td>
<td>2.0 cr.</td>
<td>A. Glick, MSW – 303-315-7963 x3. Max:42</td>
<td>This course is a continuation of MPAS 6701.</td>
</tr>
</tbody>
</table>
MPAS 6800  **PA Role Development**  
Spring Sem.  1.0 cr.  
C. Ruff, PA-C – 303-315-7963 x3. Pass/Fail Max:40  
Lectures and discussions on PA professional development, including professional behavior, ethical decision making, and risk management.

### SUMMER SEMESTER ROTATION OPTIONS

Please see “All Semesters” below.

## ALL SEMESTERS

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Semesters</th>
<th>Credits</th>
<th>Instructors</th>
<th>Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<td></td>
<td>Students will learn clinical skills in surgical medicine, including history taking, physical diagnosis, assessment and patient management and will observe or participate in surgical procedures under the supervision of community clinical preceptors.</td>
<td></td>
</tr>
<tr>
<td>MPAS 6600</td>
<td>Community Clinic</td>
<td>All Sems.</td>
<td>1.5 cr.</td>
<td>J. Nieman, PA-C – 303-315-7963 x3. Pass/Fail Max:40</td>
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<tr>
<td></td>
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<td></td>
<td>Students will learn clinical skills in pediatrics, adolescent medicine, family medicine and elective requirements, including history taking, physical diagnosis, assessment and patient management under supervision of community clinical preceptors. Students will be required to discuss current experiences in group format.</td>
<td></td>
</tr>
<tr>
<td></td>
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<td></td>
<td>Students will develop assessment and patient management skills in women's health under the supervision of community clinical preceptors. Students will also be required to discuss current clinical experiences in a group format.</td>
<td></td>
</tr>
</tbody>
</table>

### THIRD YEAR

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Semesters</th>
<th>Credits</th>
<th>Instructors</th>
<th>Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPAS 6980</td>
<td>Third Year Clinical Seminar</td>
<td>Spring</td>
<td>2.0 cr.</td>
<td>S. Hoops, PA-C – 303-315-7963 x3. Pass/Fail Max:40</td>
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<tr>
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<td>Third year clinical affords students the opportunity to present a patient encounter using multimedia technology and evidence-based research. This forum will encourage discussion of a vast array of medical conditions.</td>
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</tr>
</tbody>
</table>

## ALL SEMESTERS

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Semesters</th>
<th>Credits</th>
<th>Instructors</th>
<th>Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPAS 6920</td>
<td>Neonatology</td>
<td>All Sems.</td>
<td>2.0 cr.</td>
<td>S. Hoops, PA-C – 303-315-7963 x3. Pass/Fail Max:40</td>
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<tr>
<td></td>
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<td></td>
<td>This course involves active participation in the care of neonates in a teaching hospital. Attendance at morning rounds, making case presentations and participating in the night and weekend call schedule are required. Students are encouraged to attend deliveries and perform circumcisions and other procedures with appropriate supervision.</td>
<td></td>
</tr>
<tr>
<td>MPAS 6930</td>
<td>Amb Ped Med (Sec I, II)</td>
<td>All Sems.</td>
<td>2.0 cr.</td>
<td>S. Hoops, PA-C – 303-315-7963 x3. Pass/Fail Max:40</td>
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<tr>
<td></td>
<td></td>
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<td></td>
<td>Course involves active participation in care of patients in an ambulatory pediatric practice, including health maintenance, diagnosis and treatment, patient/parent education and follow-up. Course may be used to fulfill requirement of service to a rural (regular track students only) or medically underserved population.</td>
<td></td>
</tr>
<tr>
<td>MPAS 6932</td>
<td>Inpatient Ped Med</td>
<td>All Sems.</td>
<td>2.0 cr.</td>
<td>S. Hoops, PA-C – 303-315-7963 x3. Pass/Fail Max:40</td>
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<tr>
<td></td>
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<td></td>
<td></td>
<td>This course involves active participation as a member of the house-staff pediatric inpatient team in a teaching hospital. Attendance at morning rounds, making case presentations and participating in the night and weekend call schedule are required.</td>
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</tr>
<tr>
<td>MPAS 6934</td>
<td>Ped Elec (Sec I, II, III)</td>
<td>All Sems.</td>
<td>1.2 cr.</td>
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</tr>
</tbody>
</table>
S. Hoops, PA-C – 303-315-7963 x3. Pass/Fail Max:40

This clinical experience involves active participation in a specialty area of pediatric medicine.

**MPAS 6938 Adolesc Med**
S. Hoops, PA-C – 303-315-7963 x3. Pass/Fail Max:40
This course involves active participation in the care of patients in a clinical setting specializing in adolescent medicine, with an emphasis on the medical, psychosocial, developmental, educational and sexual issues that are unique to adolescents.

**MPAS 6940 Family Med**
S. Hoops, PA-C – 303-315-7963 x3. Pass/Fail Max:40
Involves active participation in patient care in a family medicine setting, health maintenance, diagnosis, treatment, patient education, follow-up for patients of all ages. May be used to fulfill service requirement to rural (regular track students only) or medically underserved population.

**MPAS 6942 Inpatient Fam Med**
This course involves active participation as a member of the house-staff family medicine inpatient team in a teaching hospital. Attendance at morning rounds, making case presentations and participating in the night and weekend call schedule are required.

**MPAS 6946 Women’s Healthcare**
S. Hoops, PA-C – 303-315-7963 x3. Pass/Fail: Max:40
This course involves active participation in an obstetrics and gynecology practice. Attendance at deliveries is encouraged and participating in the night and weekend call schedule may be required.

**MPAS 6948 Emer Med/Urg Care**
The course involves active participation in an emergency department or urgent care practice. Attendance at meetings, conferences, and participating in the night and weekend call schedule are required.

**MPAS 6950 Rur Trk Amb Ped**
This course involves active participation in an ambulatory pediatric practice in the same geographical region as the rural family medicine block, or in a location to which the rural family medicine practice (MPAS 6952 Sections 1, 2, 3) refers their patients.

**MPAS 6952 Rur Trk Fam Med (Sec I-III)**
S. Hoops, PA-C – 303-315-7963 x3. Pass/Fail: Max:40
This block is comprised of three sections which must be completed in sequence in a single family medicine practice located in rural Colorado. The sequence involves active participation in the care of patients in a family medicine setting, including health maintenance, diagnosis and treatment, patient education and follow-up for patients of all ages.

**MPAS 6970 Adult Elec (Sec I-IV)**
This clinical experience involves active participation in a specialty area of adult medicine.

**MPAS 6974 Adult Int Med**
S. Hoops, PA-C – 303-315-7963 x3 Pass/Fall. Max:40
The course involves active participation in an internal medicine adult practice in either the outpatient or inpatient setting. Participating in the night and weekend call schedule may be required.

**CHAM 6704 Mast Proj Prop**
A. Glicken, MSW – 303-315-7963 x3. Max:40
First segment of clinical research project: formulating a worthy problem for investigation, in-depth literature review, methodology overview, its feasibility/limitations, plans for analysis of data, timetable of the study. A field expert and program faculty sponsor should be solicited as advisors.

**CHAM 6710 Mast Proj Fin Rpt**
A. Glicken, MSW – 303-315-7963 x3. Max:40
The second segment of the project includes carrying out all field work and data collection of the approved proposal, analysis of data, and preparation of the final report. Advisors/consultants should be utilized to monitor each step as it proceeds.

**CHAM 6711 Mast Proj Oral Pres**
A. Glicken, MSW – 303-315-7963 x3. Max:40
The third segment of the graduate project demands an oral presentation of the completed project to CHAP faculty, students, instructors, project sponsors and other interested parties.
## COLLEGE OF NURSING

### Undergraduate Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>NURS 3001</td>
<td>Health Assessment</td>
<td>3.0 cr.</td>
</tr>
<tr>
<td>NURS 3002</td>
<td>Fundamentals of Nursing</td>
<td>4.0 cr.</td>
</tr>
<tr>
<td></td>
<td>Prereq: NURS 3001</td>
<td></td>
</tr>
<tr>
<td>NURS 3003</td>
<td>Pharmacology</td>
<td>3.0 cr.</td>
</tr>
<tr>
<td></td>
<td>Prereq: NURS 3001; NURS 3103</td>
<td></td>
</tr>
<tr>
<td>NURS 3103</td>
<td>Pathophysiology</td>
<td>3.0 cr.</td>
</tr>
<tr>
<td>NURS 3307</td>
<td>NsgCareChildbearFamily</td>
<td>6.0 cr.</td>
</tr>
<tr>
<td></td>
<td>Prereq: NURS 3001, NURS 3002, NURS 3003, NURS 3013</td>
<td></td>
</tr>
<tr>
<td>NURS 3407</td>
<td>NsgCareChildAdoles</td>
<td>6.0 cr.</td>
</tr>
<tr>
<td></td>
<td>Prereq: NURS 3001, NURS 3002, NURS 3003, NURS 3103</td>
<td></td>
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<tr>
<td>NURS 3507</td>
<td>Mental Health Nursing</td>
<td>6.0 cr.</td>
</tr>
<tr>
<td></td>
<td>Prereq: NURS 3001, NURS 3002, NURS 3003, NURS 3103, NURS 3999</td>
<td></td>
</tr>
<tr>
<td>NURS 3999</td>
<td>Adult&amp;ElderNursingCare</td>
<td>6.0 cr.</td>
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<tr>
<td></td>
<td>Prereq: NURS 3002, NURS 3003, NURS 3103</td>
<td></td>
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<tr>
<td>NURS 4020</td>
<td>Nursing Research</td>
<td>3.0 cr.</td>
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<tr>
<td></td>
<td>Prereq: Undergraduate statistics course</td>
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</tr>
<tr>
<td>NURS 4050</td>
<td>ProfNsReflPracIssueTrend</td>
<td>3.0 cr.</td>
</tr>
<tr>
<td></td>
<td>Prereq: NURS3001, 3002, 3003, 3103</td>
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</tbody>
</table>

Notes:
- This course introduces skills of health assessment of persons across the lifespan with a focus on the adult. Content will be presented in didactic sessions using multi-media format and application will occur in skills and simulation laboratory.
- This course focuses on nursing interventions of the art and science of human care, as foundations to reflective nursing practice. Content focuses on clinical judgment, basic nursing principles, key nursing interventions, facilitating health and understanding the patient as recipient-participant.
- Introductory course on pharmacology, including general concepts (pharmacokinetics, pharmacodynamics, developmental pharmacology, interactions, adverse effects), and overview of major drug groups following a body systems approach. Autonomic system pharmacology, implications for monitoring, drug administration, and patient education are emphasized.
- Course is divided into two content areas: general concepts and specific disease processes. General concepts include the topics of cellular environment, genetics, stress and disease, immunity, inflammation, and cellular proliferation. Exemplar disease processes from the major organ systems are presented.
- Focuses on the application of knowledge to clinical practice and introduces students to maternal, newborn and family nursing theory, nursing management and to human experience of childbearing within the context of clinical judgement and critical thinking from a caring framework.
- The nursing process is utilized in clinical practice, simulation experience and class directed toward health promotion and maintenance, disease prevention and health restoration for the child, adolescent and family. Subsystem/pattern variation receives particular emphasis.
- Focuses on the nursing care of adolescents and adults to promote and restore mental health within a variety of clinical settings. Assessments and treatment approaches based on nursing diagnosis and DSM IV classifications are incorporated into class and clinical practice.
- Nursing care of adults and older adults directed toward health promotion, disease prevention, maintenance and restoration of health is emphasized in theory and clinical practice. The concepts of health, illness, healing, and dying are investigated from a human science/caring perspective.
- Introduces process and application of nursing research and promotes the development of the student as a research consumer. The ability to critically evaluate research findings and assess their potential application in clinical practice is an integral component of the course.
- This course is one of a two-course sequence designed to enhance professional development. Content includes: historical, philosophical, theoretical, and ethical foundations of nursing; professional issues and trends; and two-selected practice/inquiry foci for theory-based, evidence-guided reflective nursing practice.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>NURS 4051</td>
<td>ProfNsReflPracSocJustice</td>
<td>3.0 cr.</td>
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<tr>
<td></td>
<td>Prereq: NURS3001, 3002, 3003, 3103.</td>
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</tr>
<tr>
<td></td>
<td>Course designed to introduce professional nursing responsibility and to enhance professional development. Content includes: historical, philosophical, theoretical, and ethical foundations of nursing; social justice and diversity; and professional issues and trends. Practice foci for theory-guided, evidence-based reflective nursing practice explored.</td>
<td></td>
</tr>
<tr>
<td>NURS 4070</td>
<td>ProfNsEnv-Bioethic-Legal</td>
<td>3.0 cr.</td>
</tr>
<tr>
<td></td>
<td>Examine societal context of nursing practice and health care delivery. Emphasis is given to environmental context of U.S. health care system and bioethical/legal parameters which influence professional nursing practice, and achievement of quality/cost effective outcomes.</td>
<td></td>
</tr>
<tr>
<td>NURS 4097</td>
<td>Adults &amp; Complex Nsg</td>
<td>6.0 cr.</td>
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<tr>
<td></td>
<td>Prereq: NURS 3999.</td>
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<tr>
<td></td>
<td>Nursing care directed toward maintenance and restoration of health in adults experiencing multiple, complex alterations is used in theory and clinical practice. Advanced concepts important in understanding health, illness, dying and death will be considered using a human science/caring perspective.</td>
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</tr>
<tr>
<td>NURS 4128</td>
<td>Sr Integrated Practicum</td>
<td>Variable cr.</td>
</tr>
<tr>
<td></td>
<td>Synthesis of theory and evidence-based practice to facilitate clinical reasoning for provision of safe, quality care. Transition into practice and professional development are promoted through leadership and management competencies in communication, conflict management, interdisciplinary collaboration, and use of information technology.</td>
<td></td>
</tr>
<tr>
<td>NURS 4207</td>
<td>Public Health Nursing</td>
<td>6.0 cr.</td>
</tr>
<tr>
<td></td>
<td>Prereq: NURS 3307, NURS 3407, NURS 3999, NURS 4020.</td>
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<tr>
<td></td>
<td>Students provide nursing care to vulnerable and diverse individuals and families in a community setting and apply public health theory and tools to the health care of populations.</td>
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</tr>
<tr>
<td>NURS 4517</td>
<td>Health Assessment</td>
<td>2.0-3.0 cr.</td>
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<tr>
<td></td>
<td>This is a basic health assessment course for students who are enrolled in the UCHSC, RN-BSN program.</td>
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<tr>
<td>NURS 4593</td>
<td>NsgCareCaseMgmt</td>
<td>6.0 cr.</td>
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<tr>
<td></td>
<td>Innovative, integrated nursing care/case management models within context of today’s managed care delivery system are considered in this course. Accountability, interdisciplinary collaboration, continuity of care, timeliness, and cost effectiveness of healthcare delivery are evaluated within the context of care management.</td>
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<tr>
<td>NURS 4727</td>
<td>Independent Study</td>
<td>Variable cr.</td>
</tr>
<tr>
<td></td>
<td>NURS 4742 AdvConceptsPallCare</td>
<td>3.0 cr.</td>
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<tr>
<td></td>
<td>Advanced course focusing on a palliative care nursing model. Theory and practice include palliative care assessment, symptom management, advanced communication skills, response to loss, and ethical issues. Students will explore palliative care as acute, restorative, and comfort care with patient/family.</td>
<td></td>
</tr>
<tr>
<td>NURS 4745</td>
<td>CplxSmptMgmtPallCare</td>
<td>3.0 cr.</td>
</tr>
<tr>
<td></td>
<td>Advanced theory course focusing on complex symptom management in palliative care nursing. Symptom management includes physical, psychosocial, and spiritual interventions. Ethical consideration of comfort vs. care, evidence-based palliative care practices, and the advanced practice nurse role will be explored.</td>
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</tr>
<tr>
<td>NURS 4757</td>
<td>NursingSummerExternship</td>
<td>3.0 cr.</td>
</tr>
<tr>
<td></td>
<td>Course combines didactic instruction with complex clinical practice to enhance complexity of critical thinking, integration, analysis, and professional clinical judgment skills of students during the delivery of nursing care to individuals/groups of individuals in a variety of practice settings.</td>
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</tr>
<tr>
<td>NURS 4836</td>
<td>Special Topics*</td>
<td>Variable cr.</td>
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<tr>
<td></td>
<td>This course is a special topic selected each semester.</td>
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</tr>
</tbody>
</table>

*Nursing Electives - offerings contingent on available faculty and sufficient enrollment.

Note: Courses in the College of Nursing are offered under a variety of formats. The following legend is placed as a footnote on each semester’s course schedule table to help students know about the courses they are registering for and formats for each of those courses. The letter in the legend corresponds to the first character of the section number. Students are responsible for checking the course schedule carefully, paying special attention to course formats, dates, and locations. All course offerings are subject to change.

L = Lab
0 = Traditional in-class format
I = Blackboard offering exclusively
B = Blend of Blackboard offering plus some in-class sessions
C = Clinical
T = Telecom

University of Colorado Denver Health Sciences Programs 2008-2009

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### Doctor of Nursing Practice (DNP)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>NUDO 6041</td>
<td>Emerging Therapies APN</td>
<td>2.0 cr.</td>
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<td>Coreq: NUDO6055</td>
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<td></td>
<td>Course in emerging therapies and healing traditions is based on the wisdom of indigenous and alternative healthcare around the world. Advances in application of healing modalities will be introduced. Integration of knowledge and holistic nursing practice will be emphasized.</td>
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<tr>
<td>NUDO 6052</td>
<td>CntxPtPop&amp;PractMgmt</td>
<td>6.0 cr.</td>
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<td>Course explores innovative and integrative population/disease management care models within today’s healthcare delivery system. Focus is on the individual’s and the agency’s accountability, interdisciplinary collaboration, timeliness, continuity of care, and cost effectiveness. Clinical experience in disease or population management included.</td>
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<tr>
<td>NUDO 6055</td>
<td>Applied EBP</td>
<td>3.0 cr.</td>
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<td></td>
<td>Prereq: NURS6011, NURS6493.</td>
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<td></td>
<td>Focuses on using research and evidence sources, clinical judgment, and patient values and preferences for clinical decision-making by advanced practice nurses. Advanced skills in critical appraisal and application of organizational culture and change theories for practice change are emphasized.</td>
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<tr>
<td>NUDO 6057</td>
<td>DsgnTheory-GuidedCare</td>
<td>2.0 cr.</td>
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<td>Prereq: NURS6010.</td>
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<td>Course focuses on the application of theories in nursing and other disciplines to guide practice and design transformative models of healthcare. Grand, middle-range, and practice level theories will be analyzed and students will develop theory-guided specialty models for practice.</td>
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<tr>
<td>NUDO 6058</td>
<td>Practice Epistemology</td>
<td>3.0 cr.</td>
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<td>Ways of knowing about the human experience of health and illness and the nature and scope of knowledge will be explored. A narrative approach is used to uncover, describe and interpret the meaning of health, illness, and nursing practice.</td>
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<tr>
<td>NUDO 6059</td>
<td>Cultural Competence APN</td>
<td>2.0 cr.</td>
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<td>Addresses cultural perspectives on clinical care, including the frameworks and methods used successfully by advanced practice nurses to assess cultural preferences, express expectations, negotiate treatment plans and modify care to accommodate provide-patient differences and patient and family expectations.</td>
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<tr>
<td>NUDO 7001</td>
<td>Portfolio Evaluation</td>
<td>1.0 cr.</td>
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<td></td>
<td>Purpose is to determine specific DNP competencies that have been met through education and experience, and identify those competencies that have yet to be met through degree-specific coursework. Available only for CU-SON Nursing Doctorate graduates with a Masters in Nursing.</td>
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<tr>
<td>NUDO 7018</td>
<td>DNPCapstoneProposal</td>
<td>1.0 cr.</td>
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<td>Prereq: NUDO6055, NUDO6052, NUDO6053, NUDO8010</td>
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<td></td>
<td>Students prepare for the DNP Capstone Clinical Project by completing human subjects preparation, discussing ethical conduct of clinical research, selecting an appropriate design and method, and planning for subject recruitment and site selection.</td>
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<tr>
<td>NUDO 8010</td>
<td>DNP Role Residency</td>
<td>4.0 cr.</td>
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<td>Develop and demonstrate leadership expectations within the framework of Doctor of Nursing Practice role by application of clinical evaluation science to create, implement, and evaluate practice interventions, health delivery systems, and/or clinical teaching.</td>
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<tr>
<td>NUDO 8018</td>
<td>DNPCapstoneProject</td>
<td>3.0 cr.</td>
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<td>Prereq: NURS7018, NUDO6055, 6052 NUDO8010</td>
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<td>Following completion of NUDO7018 proposal the emphasis in this course is the collection, management, analysis, synthesis, and discussion of research or evaluation data on a clinical research or evidence-based practice question.</td>
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<td>NURS 6055</td>
<td>Applied EBP</td>
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<td>Prereq: NURS6011, NURS6493.</td>
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<td>Focuses on using research and evidence sources, clinical judgment, and patient values and preferences for clinical decision-making by advanced practice nurses. Advanced skills in critical appraisal and application of organizational culture and change theories for practice change are emphasized.</td>
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<tr>
<td>NURS 6303</td>
<td>Epidemiology &amp; Environmental Health</td>
<td>3.0 cr.</td>
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<td>Concepts and methods of epidemiology are applied to ANP with populations. Agent, host, and environmental factors used to examine environmental risks, issues of environmental justice, and models of care for high-risk populations will be examined and evaluated.</td>
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</table>
NURS 6304  MgmtInfoDecisionSupport  3.0 cr.
This course focuses on the identification, acquisition, analysis, interpretation and application of data. Application of decision-making strategies for APN will be emphasized in the areas of quality management and clinical decisions. Information management tools will be explored.

NURS 6493  InferentialStatsNursing  3.0 cr.
Prereq: Elementary statistics course & NURS6011.
This is an intermediate-level statistics course for nursing graduate students. Topics covered include: correlation, prediction and regression, hypotheses testing, t-testing, ANOVA, and ANCOVA. Material is made relevant to nursing by use of nursing research studies as examples.

Note: Courses in the College of Nursing are offered under a variety of formats. The following legend is placed as a footnote on each semester’s course schedule table to help students know about the courses they are registering for and formats for each of those courses. The letter in the legend corresponds to the first character of the section number. Students are responsible for checking the course schedule carefully, paying special attention to course formats, dates, and locations. All course offerings are subject to change.

L = Lab
0 = Traditional in-class format
I = Blackboard offering exclusively
B = Blend of Blackboard offering plus some in-class sessions
C = Clinical
T = Telecom (interactive video for distance students)

Graduate (Master’s Level) Courses

See course schedule and course offering plan for mode of delivery and course information – http://hschealth.uchsc.edu/son/current/studentcentral.htm. BS in Nursing or permission of instructor is required for enrollment in Master’s Program courses or permission of instructor.

NURS 6010  PhilTheorEthicFoundAPN  3.0 cr.
The purpose of this course is to introduce concepts of the nursing discipline, reflective practice, and nursing’s philosophical, theoretical, and ethical frameworks as a foundation for advanced practice.

NURS 6013  HumanTechnologyInterface  2.0 cr.
The analysis of the legal, ethical policy in human interface issues related to the impact of technology on the individual, health care and society.

NURS 6022  HlthSysPolicySocJustice  3.0 cr.
This course focuses on leadership in the health care system, policy formation and analysis, economics, finance, and outcomes. Evaluation of health care provides the context for examining partnerships, models of care, and emerging ethical, social, political, cultural and legal issues.

NURS 6031  ResearchMethodsAdvPract  4.0 cr.
Prereq: Undergraduate research course and basic statistics course.
This course focuses on research methods applicable to nursing practice. Quantitative and qualitative methods are presented and discussed in the context of evidence-based practice. Statistics relevant to understanding and evaluating research findings for advanced nursing practice are explored.

NURS 6053  GeroNsgAPConcept  3.0 cr.
Course focuses on selected theories, research, and current practice issues relevant to normal changes and pathological processes prevalent in older adults. Emphasis is placed on psychosocial, cultural, spiritual, environmental, and physiological concepts related to advanced practice and the older adult.

NURS 6113  HlthPromo&Lifestyle  2.0 cr.
This course critiques health promotion theories and policies, reviews health promotion guidelines across the lifespan. Nursing actions to enhance health promotion, through increasing client knowledge, self care, motivation and adherence are emphasized.

NURS 6120  FoundHealingPract  1.0 cr.
Course explores foundations for health care practice within a caring/healing framework. A fundamental focus of the course is on renewal and inspiration of health care providers as a crucial element in the creation of a true, healing health care system.

NURS 6121  CaringInquiry:Narrative  2.0 cr.
This course emphasizes narrative as an interpretive method (1) for understanding the subjective human experiences of health, illness, healing, death/dying; and (2) as a basis for caring/healing practice. Discussion includes narrative theory, selected illness narratives, and implications for praxis.
NURS 6122  Ethics of Caring  1.0 cr.
Course compares traditional, rationalist, and relational approaches to caring in nursing. Caring is analyzed conceptually as equilibrium among three ethical dimensions; subjective immediacy, objective principles, and interpersonal engagement. Caring ethics proposed as the relational narrative describing equilibrium in nurse-patient relationship.

NURS 6124  HlthCareSpiritualPract  1.0 cr.
Based on Nightingale’s philosophy, this experiential course explores the nurse’s work of caring and healing as deep spiritual practice. Spiritual practices from diverse traditions will be explored and experienced with emphasis on integrating learning into daily professional health care practice.

NURS 6220  AdvAcuteCritCareNsgI  3.0 cr.
Prereq: 1 year experience in acute/critical care practice or Instructor permission; COREQ for matriculated students specializing in Acute and Critical Care: NURS 6755: Advanced Practicum – Adult CNS – 3 credits; Students taking course for elective credit for non-degree/professional development, or who are NPs, are not required to register for Advanced Practicum.
Course focuses on collaborative care of acute and critical illness in adults by Advanced Practice Nurses.
Content includes theory- and evidenced-based management of selected cardiopulmonary, immunologic, and reproductive system disorders, code and acute pain management, role integration, and professional issues.

NURS 6222  Adv Pharm&Therapeutics  3.0 cr.
Prereq: Graduate level nursing research or inferential statistics; NURS 6243.
This course prepares students of APN to manage drug therapy for various client populations and settings. Pharmacokinetic and pharmacodynamic principles and evidence-based practice form the foundation for consideration of the pharmacotherapeutics of selected conditions and drug groups.

NURS 6243  Advanced Pathophysiology  3.0 cr.
Prereq: Undergraduate anatomy & physiology course; undergraduate pathophysiology course.
Advanced concepts in pathophysiologic principles provide an understanding of aspects of disease/disease processes and a foundation for assessment/management of acutely/chronically ill client. Epidemiology, etiology, lifespan/cultural concepts, diagnostic reasoning, and current research findings (including genetics and immunology) are covered.

NURS 6274  Nursing Terminologies  3.0 cr.
Prereq: Online course skills.
Course introduces the concept of classifying nursing phenomena to facilitate data management and retrieval. This informatics class includes such topics as minimum data sets, nursing language, classification systems and vocabularies, and relates each topic to nursing practice, administration, and research.

NURS 6279  Knowledge Systems  3.0 cr.
A variety of knowledge systems, including data analysis, information retrieval systems, expert systems, and artificial intelligence are explored. Human decision-making strategies and need for decision support are presented. Design of expert systems is described. Artificial intelligence and health applications explored.

NURS 6284  Telehealth Applications  3.0 cr.
Prereq: Computer competency.
Course focuses on design and application of telehealth principles in delivery of health care. Reviews current applications and allows students to examine applications in terms of human computer interaction, legal, ethical and policy issues. Highlights evidence-based support for telehealth applications.

NURS 6285  HumanComputerInteraction  3.0 cr.
Human computer interaction examines the relationship of interface design to effective human interaction with computers. This course examines principles, theory and models to design and evaluate optimal interfaces to promote human computer interaction in health care informatics applications.

NURS 6289  InfoSysLifeCycle  4.0 cr.
Prereq: Minimum of one informatics course.
Course focuses on a structured approach to the selection and implementation of an information system. The five phases of the life cycle (planning, analysis, design, implementation and evaluation) provide the framework for students to work in teams on structured exercises.

NURS 6293  DatabaseMgmtSys  3.0 cr.
Prereq: Current knowledge equivalency of upper level division research methods course.
This interdisciplinary course focuses on historical, theoretical, and application issues in the design and administration of database management systems. Theories and concepts of file and database structure are explored.

NURS 6303  Epidemiology&EnvironHlth  3.0 cr.
Concepts and methods of epidemiology are applied to ANP with populations. Agent, host, and environmental factors used to examine environmental risks, issues of environmental justice, and models of care for high-risk populations will be examined and evaluated.
NURS 6304  Management of Information and Decision Support  3.0 cr.
This course focuses on the identification, acquisition, analysis, interpretation and application of data. Application of decision-making strategies for APN will be emphasized in the areas of quality management and clinical decisions. Information management tools will be explored.

NURS 6343  Women's Gynecologic Health Care  1.0-3.0 cr.
Prereq: NURS6222, NURS 6243, NURS 6761.
Course provides content on the diagnosis, treatment, and management of gynecologic health problems of women across the lifespan. Content centers on alterations in gynecologic health using a case study approach.

NURS 6352  Care of High-Risk Pregnancy  2.0 cr.
Prereq: NURS6222, NURS6243, NURS6373, NURS6755 (minimum of 1 credit in OB setting), NURS6761.
This course facilitates development of critical thinking necessary for the application of advanced practice management with women and their families experiencing a pregnancy with risk factors. Focus will be on the pre- and postnatal periods.

NURS 6372  Care of Pregnancy and Birth  1.0 or 3.0 cr.
Prereq: NURS 6222, NURS 6243, NURS 6477, NURS 6761. Coreq: NURS 6755 [2 cr. for WH/NMW in 1 cr. section; 2 cr. Intrapartum in 3 cr. section].
Credit 1: Provides overview and management of low-risk prenatal and postnatal care of women.
Credit 2 & 3: Develops critical thinking skills to plan, implement, and evaluate care including normal processes, high-risk, and emergent situations during labor, birth, and postpartum.

NURS 6433  Health and Education of Children with Disabilities  2.0 cr.
Prereq: Enrollment in Leadership Option: Care of Children with Disabilities/Chronic Conditions and their Families, or Post Master's certificate program Leadership Option: Care of Children with Disabilities/Chronic Conditions and their families. May be available as elective for upper division undergraduate students and other graduate-level students.
This course prepares advanced practice nurses to educate and supervise paraprofessionals, teachers and other care providers to work with young children with disabilities and chronic conditions and their families in child care and early education settings.

NURS 6477  Primary Care of the Well Child  1.0-4.0 cr.
Prereq/Coreq: NURS 6761, NURS6755 or NURS6756 or NURS6757.
Focus of course is on advanced assessment, health promotion, disease and disability prevention for well children, birth through adolescence, including assessment and management of common developmental issues. Context is the child's family, culture, and community.

NURS 6483  Ethics and Genetics of Children with Disabilities  3.0 cr.
Prereq: Eligible as elective for upper division BSN, MS, ND, and PhD students.
Course covers foundations of ethics and genetics for children with disabilities and chronic health conditions and their families. Ethical dilemmas requiring interdisciplinary consultation emphasized. Student's ethical, professional identity explored as an outcome of the course.

NURS 6487  Primary Care of Children with Minor Acute Illnesses  5.0 cr.
Prereq: NURS6761, Coreq: (PNP students – NURS6477 and 200 hours of completed clinical). Others require permission of instructor but should be enrolled in a minimum of one credit hour of advanced clinical practicum.
This course focuses on primary care and specialty practices of APN working with children with minor acute illnesses and their families. Content on theories of child development, the family, culture, and the environment is addressed.

NURS 6493  Inferential Statistics for Nursing  3.0 cr.
Prereq: Elementary statistics course & NURS6011.
This is an intermediate-level statistics course for nursing graduate students. Topics covered include: correlation, prediction and regression, hypotheses testing, t-testing, ANOVA, and ANCOVA. Material is made relevant to nursing by use of nursing research studies as examples.

NURS 6497  Primary Care of Children with Chronic Illness  1.0-2.0 cr.
Prereq: NURS 6477 and 6487 (PNP/FNP), others require permission of instructor. Coreq for PNP/PSN students: NURS 6758 1 credit hour specialized in disability.
This course focuses on primary care and specialty practices of APN working with children with disabilities/chronic illness and their families. Content on theories of child development, the family, and the environment is addressed.

NURS 6498  Care Management of Children with Special Needs  4.0 cr.
Explores the role of the advanced practice nurse in the care of children with special needs. Emphasis is on a research-based, family centered, systems approach to planning and implementing community based care for this population.
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<th>Course Code</th>
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<tr>
<td>NURS 6499</td>
<td>PHCChildSpecNeedsDisabil</td>
<td>1.0 cr.</td>
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<td>Coreq: NURS6758, NURS6761, NURS6477.</td>
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<td>This course focuses on primary care and specialty practices of advanced practice nurses working with children with disabilities and their families. Content on theories of nursing and child development, the family, and the environment is addressed.</td>
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<tr>
<td>NURS 6505</td>
<td>Sys&amp;ComCareChildSpecNeed</td>
<td>4.0 cr.</td>
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<td>Prereq: Enrollment in PSN Masters/Post-Masters.</td>
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<td>Explores APN roles in systems of care and community-based programs impacting children with special needs and their families. This course emphasizes knowledge and skills for diverse pediatric nursing leadership roles, serving multicultural populations in systems and community programs.</td>
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<tr>
<td>NURS 6633</td>
<td>AdvPublicHlthNursing</td>
<td>3.0 cr.</td>
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<td>Prereq: NURS 6010, NURS6011.</td>
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<td>This course examines historical and current standards of practice for public health nursing. Theory-based, evidence-based public health practice is a major focus of the course. Content and activities promote the achievement of the core competencies for public health professionals.</td>
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<tr>
<td>NURS 6663</td>
<td>Leadership &amp; Management</td>
<td>4.0 cr.</td>
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<td>Advanced leadership roles for facilitating, integrating, and coordinating complex structures and processes in health care systems are emphasized. Students will demonstrate an understanding of partnerships, accountability, service-based approaches, continuum-defined health care systems, self-managed teams, and value-based organizations.</td>
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<tr>
<td>NURS 6673</td>
<td>SysAssProgDesignEval</td>
<td>3.0 cr.</td>
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<td>Prereq: NURS 6011.</td>
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<td>Course focuses on theories and frameworks of assessment in communities and organizations. Based on system diagnosis, students develop healthcare programs, implementation and evaluation plans to improve care quality. Students apply acquired competencies to projects relevant to their selected specialty option.</td>
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<td>NURS 6689</td>
<td>Global Health</td>
<td>3.0 cr.</td>
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<td>Global health issues with emphasis on exploring health care systems and effects on economically less developed countries. Provides students the opportunity to explore cultural beliefs, values in health-seeking behaviors among selected populations, role of nursing in addressing global health concern.</td>
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<tr>
<td>NURS 6693</td>
<td>MgmtPatientCareServices</td>
<td>3.0 cr.</td>
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<td>This course examines concepts of human resource management, clinical operations, and quality improvement strategies in nursing. Tools and techniques which facilitate sound nursing management across the continuum of care are emphasized. Multiple dimensions of managing patient care operations are considered.</td>
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<tr>
<td>NURS 6742</td>
<td>APN AcuteCritCare</td>
<td>3.0 cr.</td>
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<td>Prereq: NURS6744; 1 year experience in acute/critical care practice preferred. Coreq for matriculated CNS matriculated CNS students: NURS6755/56 Advanced Practicum and of the CNS sections – 1-3 credits. Students taking for elective credit or non-degree/professional development, or who are NP’s are not required to register for Advanced Practicum.</td>
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<td>Focuses on diagnosis and collaborative management of acute and critical illness in adults by Advanced Practice Nurses. Content includes advanced skill development; theory-guided and evidence-based disease management, health promotion/disease prevention, culturally competent care, chronotherapeutics, complementary therapies, and APN role integration.</td>
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<tr>
<td>NURS 6744</td>
<td>AdvConceptPallCare</td>
<td>3.0 cr.</td>
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<td>Prereq: NURS6761.</td>
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<td>Advanced course focusing on a palliative care nursing model. Theory and practice include palliative care assessment, symptom management, advanced communication skills, responses to loss, and ethical issues. Students will explore palliative care as acute, restorative, and comfort care with patient/family.</td>
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<tr>
<td>NURS 6745</td>
<td>CmplxSmptMgmtPallCareNsg</td>
<td>3.0 cr.</td>
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<td>Prereq: May be taken for course credit or CE credit; can be the second elective course for palliative care in adult CNS-MS tract.</td>
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<td>An advanced theory course focusing on complex symptom management in palliative nursing. Symptom management will include physical, psychosocial, and spiritual interventions. Ethical consideration of comfort vs. care, evidence-based palliative care practices, and the role for the APN will be explored.</td>
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<tr>
<td>NURS 6746</td>
<td>CmplxSymptMgmtCNS</td>
<td>3.0 cr.</td>
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<td>Prereq: NURS6742, NURS6744. Coreq: Matriculated CNS Students NURS6755-58 APN – any of CNS sections – 1-3 credits.</td>
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<td>Course focuses on complex symptom management of adults needing palliative care and/or suffering from acute and critical illness for APN. Students will learn content specific to their clinical emphasis to include theory- and evidence-based management.</td>
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<tr>
<td>NURS 6751</td>
<td>AP:HlthSystemsLeadership</td>
<td>3.0 cr.</td>
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<td>NURS 6752</td>
<td>AP:PublicHlthNsg</td>
<td>Variable cr.</td>
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<tr>
<td>NURS 6754</td>
<td>AP:CommunithAnalysis</td>
<td>3.0 cr.</td>
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<tr>
<td>NURS 6755</td>
<td>Advanced Practicum I</td>
<td>Variable cr.</td>
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<tr>
<td>NURS 6756</td>
<td>Advanced Practicum II</td>
<td>Variable cr.</td>
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<tr>
<td>NURS 6757</td>
<td>Advanced Practicum III</td>
<td>Variable cr.</td>
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<tr>
<td>NURS 6758</td>
<td>Advanced Practicum IV</td>
<td>Variable cr.</td>
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<tr>
<td>NURS 6759</td>
<td>AdvPractHlthCarsInform</td>
<td>Variable cr.</td>
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<tr>
<td>NURS 6761</td>
<td>Advanced Assessment</td>
<td>3.0 cr.</td>
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<tr>
<td>NURS 6770</td>
<td>AP:CertRequireCNS</td>
<td>1.0-8.0 cr.</td>
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<tr>
<td>NURS 6773</td>
<td>APNOnNsgPhysiologicResp</td>
<td>3.0 cr.</td>
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<tr>
<td>NURS 6783</td>
<td>APNOnNsgPsychosocResp</td>
<td>2.0-3.0 cr.</td>
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NURS 6827  Diag&MgmtAcuteAlterHlth  2.0 cr.
Prereq: NURS 6243, NURS 6761. Coreq: NURS 6222, NURS 6755 (2 hours) or NURS 6756 (2 hours).
This course provides content on the diagnosis, treatment, and management of adults with acute conditions/illnesses. Content centers on acute alterations in health using a case study approach in both didactic and seminar format.

NURS 6833  Aesth&WisdomTradCaring  1.0 cr.
Exploration of wisdom traditions of caring-healing. Selected ancient world views intersections will be made between art, science, spirituality and diverse world populations, especially indigenous peoples. Aesthetics of sacred rituals, archetypes, symbols and myths of caring-healing practices will be examined.

NURS 6836  Special Topics  Variable cr.
This course is a special topic selected each semester.

NURS 6837  Diag&MgmtChronicAltHlth  3.0 cr.
Prereq: NURS 6222, NURS 6243, NURS 6547, NURS6761, NURS6827. Coreq: NURS 6755-57 (2 hours).
This course provides content on the diagnosis, treatment, and management of adults with chronic conditions and the effects on their families. Content centers on chronic alterations in health using a case study approach in didactic and seminar format.

NURS 6843  TheoryPhiloCaringHealing  2.0 cr.
Prereq: Masters/doctoral course work.
The course will focus on diverse philosophies/theories of caring within the context of the theory of human caring. The theoretical ideas will be critiqued, examined for convergence with contemporary nursing theories, emerging developments in science, integrative medicine and relationship centered caring.

NURS 6846  Guided Research In Nsg  Variable cr.
Focuses on independent research in an area of interest to graduate nursing students.

NURS 6856  Independent Study (MS)  Variable cr.

NURS 6858  APN:RoleConceptProfIssue  1.0 cr.
History and role of APN in different settings, discussing major concepts of teamwork, collaboration, collegiality, and role acquisition in intra- and inter-disciplinary practice. Practice issues (professional involvement, marketing, negotiation, reimbursement, legal issues, ethical decision-making, theory and evidence-based practice) are explored.

NURS 6897  PrimCareUrgentEmergent  2.0 cr.
This is a theory and application course which addresses the assessment and management of urgent/emergent problems commonly encountered in rural and urban primary care settings.

NURS 6940  Comprehensive Exam  1.0 cr.
Registration only if not enrolled in other coursework in the semester in which he/she takes MS comprehensive exams.

NURS 6956  Master's Thesis  Variable cr.
Includes identification of a problem, design and conduct of the investigation of the problem, and a written report. Opportunity to discuss and test thesis plans with a group of colleagues.

Note: Master's courses may not be offered unless minimum enrollment is 12. Courses in the College of Nursing are offered under a variety of formats. The following legend is placed as a footnote on each semester's course schedule table to help students know about the courses they are registering for and formats for each of those courses. The letter in the legend corresponds to the first character of the section number. Students are responsible for checking the course schedule carefully, paying special attention to course formats, dates, and locations. All course offerings are subject to change.

L = Lab
0 = Traditional in-class format
I = Blackboard offering exclusively
B = Blend of Blackboard offering plus some in-class sessions
C = Clinical
T = Telecom (Interactive video for distance students)
Graduate (Ph.D. Level) Courses

See course schedule and course offering plan for mode of delivery and course information – http://hschealth.uchsc.edu/son/current/studentcentral.htm. Prereq – Admission to the Ph.D. Program.

NURS 6680  Global Health  3.0 cr.
Global health issues with emphasis on exploring health care systems and effects on economically less developed countries. Provides students the opportunity to explore cultural beliefs, values in health-seeking behaviors among selected populations, role of nursing in addressing global health concern.

NURS 7000  Philosophy of Science  3.0 cr.
History and philosophy of science studied within context of Western philosophical systems. Five Major evolutionary paradigms, from conventional science to human science, to emergent caring science are explored, analyzed, and critiqued with relevance toward further development of discipline of nursing.

NURS 7020  Methods of DiscInquiry  3.0 cr.
Prereq: NURS 6493. Examine the interrelationship of a broad range of research methods and other forms of scholarly inquiry to the development of nursing knowledge for evidence-based practice. Students begin building a foundation for focused intellectual inquiry in a substantive area of nursing.

NURS 7030  Discipline of Nursing  3.0 cr.
Nature of nursing as a professional discipline, historical and current perspectives regarding nursing’s phenomena of interest, the evolution and contributions of nursing scholarship, and environmental, social, cultural, health care system, and international influences on the discipline and profession of nursing.

NURS 7059  Cultural Competence APN  2.0 cr.
Addresses cultural perspectives on clinical care, including the frameworks and methods used successfully by advanced practice nurses to assess cultural preferences, express expectations, negotiate treatment plans and modify care to accommodate provider-patient differences and patient and family expectations.

NURS 7120  Theory & Knowledge Dev Nsg  3.0 cr.
Prereq: NURS 7000, NURS 7030. This course focuses on the empiric, philosophic and aesthetic processes for and products of knowledge development in nursing. Classical approaches to theory development and analysis are contrasted with more contemporary models of knowledge development.

NURS 7300  Qualitative Empir Research  3.0 cr.
Prereq: NURS 7000, NURS 7020, NURS 7030. Empirical qualitative research designs and methods to build knowledge in nursing/healthcare are analyzed and critiqued including traditional and emerging approaches. Designs include: ethnography, grounded theory, narrative, case study, historical, and qualitative descriptive. Qualitative methods are applied to focused student study.

NURS 7310  Qualitative Interp Res  3.0 cr.
Prereq: NURS 7000, NURS 7020, NURS 7030. Introduces a range of qualitative interpretive approaches to research. Selected topics reflect philosophies, strategies and methods faculty use in their own research and student interests. Student papers reflect critical analysis of traditional and emerging qualitative interpretive research approach.

NURS 7400  Adv Quant Analysis Design 1  3.0 cr.
Prereq: NURS 6493, NURS 7020. Course emphasizes development, implementation and analysis of quantitative research, including experimental and quasi-experimental research designs. Advantages, disadvantages and potential statistical tools for each design are discussed. Analytic issues presented including general linear model, matrix algebra, analyses, power and statistical inferences.

NURS 7410  Adv Quant Analysis Design 2  3.0 cr.
Prereq: NURS 6493, NURS 7020, NURS 7400. This course focuses on the application of advanced quantitative methods, theories and models. It presents a variety of multivariate statistics designed to answer complex nursing questions. Emphasis is placed on selection of the appropriate test to answer the research question.

NURS 7652  Cost Qual Outcomes Macro  3.0 cr.
NURS 7653  Cost/QualOutcomesMicro  3.0 cr.
Prereq:  NURS7020.
Examines phenomena, methods and measurements that deal with clinical outcomes and patient assessments of care from a quality/cost perspective at intra-organizational (individual, unit, organization) levels. Emphasis on: research methods; instrumentation and psychometrics; knowledge development in nursing and health services research.

NURS 7713  HumanExperience  3.0 cr.
Prereq:  NURS 7000, NURS 7020, NURS 7030.
This course provides an overview of extant knowledge of prototypical phenomena and ontological perspectives regarding the human experiences of health, illness, healing, and death/dying. The emphasis is on understanding human experience from multiple epistemic perspectives, including philosophical, theoretical, and empirical.

NURS 7714  SelectedTopic:HumanExper  3.0 cr.
Prereq:  NURS7030, NURS7000, NURS7020, NURS7713.
This doctoral seminar addresses selected middle range topics related to the human experience of health, illness, healing and death/dying; identifies directions for knowledge development and nursing praxis; and facilitates foundational scholarship in a student’s area of concentration.

NURS 7833  Aesth&WisdomTradCaring  1.0 cr.
Exploration of wisdom traditions of caring-healing. Selected ancient world views intersections will be made between art, science, spirituality and diverse world populations, especially indigenous peoples. Aesthetics of sacred rituals, archetypes, symbols and myths of caring-healing practices will be examined.

NURS 7836  Special Topics  Variable cr.
This course is a special topic selected each semester.

NURS 7843  TheoryPhiloCaringHealing  2.0 cr.
Course will focus on diverse philosophies/theories of caring within the context of the theory of human caring. The theoretical ideas will be critiqued, examined for convergence with contemporary nursing theories, emerging developments in science, integrative medicine and relationship centered caring.

NURS 7846  RsrchPract&Integrity  3.0 cr.
Prereq:  NURS 7020.
Course combines a 45 hour research practicum with web-based modules designed to facilitate critical thinking in the ethics of inquiry, enhance skills in scholarly writing, and provide a topic for discussion and reflection on the mentored practicum.

NURS 7856  IndependentStudy  Variable cr.

NURS 8990  Dissertation  Variable cr.
Prereq: Completion of majority of doctoral course work.
Student MUST register for section number listed for dissertation chairperson.

Note:  Course offerings subject to change. Students are encouraged to meet regularly with their advisor. Courses may not be offered unless minimum enrollment is 6. Courses in the College of Nursing are offered under a variety of formats. The following legend is placed as a footnote on each semester’s course schedule table to help students know about the courses they are registering for and formats for each of those courses. The letter in the legend corresponds to the first character of the section number. Students are responsible for checking the course schedule carefully, paying special attention to course formats, dates, and locations. All course offerings are subject to change.
L = Lab
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Professional Development Courses

Open Enrollment
The College of Nursing is committed to the facilitation of continued professional development for all nurses seeking not only traditional continuing education opportunities, but for those seeking a life long partner in their continuing professional development needs. The College of Nursing offers many educational resources such as the Clinical Educator and Caring-Healing Certificate Programs. Opportunities are available for continuing education credit; graduate and upper level undergraduate credit.

There is no automatic transfer of academic credits earned as a non-degree student to a degree. Any transfer of credit hours toward a degree is at the discretion of the academic program to which the student is applying and must be in accordance with the University of Colorado policies and guidelines.
Open Enrollment Courses
Opportunities for registration for open enrollment courses for the College of Nursing will be provided through the College of Nursing Office of Professional Development at 303-724-1372 or by monitoring our Website at http://hshealth.uchsc.edu/son/grad/off_prof_dev.htm. Open enrollment is available by semester. Please plan to seek open enrollment information and registration at least 45 days prior to the semester you are interested in. Registration is waitlisted on a first-come/first-served basis as space allows in the courses. Courses related to prescriptive authority are particularly active and require early enrollment.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>NURS 5840</td>
<td>Clinical Teaching Theory</td>
<td>3.0 cr.</td>
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<tr>
<td></td>
<td>Designed to provide a theoretical and evidence-based foundation for clinical education. Specific knowledge and skills necessary for developing comprehensive, competency-based education programs, and activities for health care facilities are presented.</td>
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<tr>
<td>NURS 5841</td>
<td>Writing A Business Plan</td>
<td>4.0 cr.</td>
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<td></td>
<td>Focuses on management, planning, and budgeting concepts as they pertain to clinical education. Attention will be focused on business plan development, projects management, and resource utilization, as well as an introduction to external funding sources.</td>
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<tr>
<td>NURS 5842</td>
<td>Planning and Evaluation</td>
<td>3.0 cr.</td>
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<tr>
<td></td>
<td>Focuses on the design, planning, delivery and evaluation of clinical education programs. Techniques and methods to determine and provide theory-guided and evidence-based education offerings for clinical staff will be emphasized.</td>
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<tr>
<td>NURS 6120</td>
<td>FoundHealingPract</td>
<td>1.0 cr.</td>
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<td></td>
<td>Course explores foundations for health care practice within a caring/healing framework. A fundamental focus of the course is on renewal and inspiration of health care providers as a crucial element in the creation of a true, healing health care system.</td>
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<tr>
<td>NURS 6121</td>
<td>CaringInquiry:Narrative</td>
<td>2.0 cr.</td>
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<td></td>
<td>This course emphasizes narrative as an interpretive method (1) for understanding the subjective human experiences of health, illness, healing, death/dying; and (2) as a basis for caring/healing practice. Discussion includes narrative theory, selected illness narratives, and implications for praxis.</td>
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<tr>
<td>NURS 6122</td>
<td>Ethics of Caring</td>
<td>1.0 cr.</td>
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<td></td>
<td>Course compares traditional, rationalist, and relational approaches to caring in nursing. Caring is analyzed conceptually as equilibrium among three ethical dimensions; subjective immediacy, objective principles, and inter-subjective engagement. Caring ethics proposed as the relational narrative describing equilibrium in nurse-patient relationship.</td>
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<tr>
<td>NURS 6124</td>
<td>HlthCareSpiritualPract</td>
<td>1.0 cr.</td>
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<td></td>
<td>Based on Nightingale’s philosophy, this experiential course explores the nurse’s work of caring and healing as deep spiritual practice. Spiritual practices from diverse traditions will be explored and experienced with emphasis on integrating learning into daily professional health care practice.</td>
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<tr>
<td>NURS 6680</td>
<td>Global Health</td>
<td>3.0 cr.</td>
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<tr>
<td></td>
<td>Global health issues with emphasis on exploring health care systems and effects on economically less developed countries. Provides students the opportunity to explore cultural beliefs, values in health-seeking behaviors among selected populations, role of nursing in addressing global health concern.</td>
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<tr>
<td>NURS 6744</td>
<td>AdvConceptPallCare</td>
<td>3.0 cr.</td>
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<tr>
<td>Prereq:</td>
<td>NURS6761.</td>
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<tr>
<td></td>
<td>Advanced course focusing on a palliative care nursing model. Theory and practice include palliative care assessment, symptom management, advanced communication skills, responses to loss, and ethical issues. Students will explore palliative care as acute, restorative, and comfort care with patient/family.</td>
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<tr>
<td>NURS 6745</td>
<td>CmplxSmptMgmtPallCareNsg</td>
<td>3.0 cr.</td>
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<tr>
<td>Prereq:</td>
<td>May be taken for course credit or CE credit; can be the second elective course for palliative care in adult CNS-MS tract. An advanced theory course focusing on complex symptom management in palliative nursing. Symptom management will include physical, psychosocial, and spiritual interventions. Ethical consideration of comfort vs. care, evidence-based palliative care practices, and the role for the APN will be explored.</td>
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<tr>
<td>NURS 6833</td>
<td>Aesth&amp;WisdomTradCaring</td>
<td>1.0 cr.</td>
</tr>
<tr>
<td></td>
<td>Exploration of wisdom traditions of caring-healing. Selected ancient world views intersections will be made between art, science, spirituality and diverse world populations, especially indigenous peoples. Aesthetics of sacred rituals, archetypes, symbols and myths of caring-healing practices will be examined.</td>
<td></td>
</tr>
</tbody>
</table>
NURS 6843  TheoryPhilosophyCaringHealing  
Prereq: Masters/doctoral course work.
Course will focus on diverse philosophies/theories of caring within the context of the theory of human caring.
The theoretical ideas will be critiqued, examined for convergence with contemporary nursing theories, emerging developments in science, integrative medicine and relationship centered caring.

NURS 7833  AestheticsWisdomTradCaring  
Exploration of wisdom traditions of caring-healing. Selected ancient world views intersections will be made between art, science, spirituality and diverse world populations, especially indigenous peoples. Aesthetics of sacred rituals, archetypes, symbols and myths of caring-healing practices will be examined.

NURS 7843  TheoryPhilosophyCaringHealing  
Course will focus on diverse philosophies/theories of caring within the context of the theory of human caring.
The theoretical ideas will be critiqued, examined for convergence with contemporary nursing theories, emerging developments in science, integrative medicine and relationship centered caring.
SCHOOL OF PHARMACY
DOCTOR OF PHARMACY PROGRAM

(The pharmacy curriculum is subject to change without notice.) Electives offered by the Program in Health Care Ethics, Humanities and Law are listed under Preventive Medicine in the School of Medicine and Graduate School sections. These courses are offered on an interdisciplinary basis; students in all UCHSC schools are encouraged to participate.

<table>
<thead>
<tr>
<th>FALL SEMESTER</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PHRD 3000</strong> Intro Pharm Prac 2.0 cr.</td>
</tr>
<tr>
<td>Catherine Jarvis, Pharm.D., Beverly Brunson, MPA Prerequisites - P1 status.</td>
</tr>
<tr>
<td>This course uses large group didactic discussion, small group problem-based learning, self-learning and outside activities. The focus is to provide students the opportunity to learn basic skills needed for success in the professional pharmacy curriculum and in their academic careers.</td>
</tr>
</tbody>
</table>

| **PHRD 3100** Prof Skills Dev I 3.0 cr. |
| Susan Paulsen, Pharm.D., Connie Valdez, Pharm.D. Prerequisites – PHRD 3000, P1 status. |
| This course is the first in a five-semester longitudinal course sequence intended to develop a broad range of skills necessary for current and future pharmacy practice. It is designed to parallel the didactic portion of the curriculum. |

| **PHRD 3200** Prof Career Dev 1.0 cr. |
| Heather Ulrich, Pharm.D. Prerequisites – PHRD 3000, P1 status. |
| Introduces students to selected opportunities and current issues related to professional careers in pharmacy. This course will therefore consist of a series of presentations by faculty and guest lecturers highlighting the multifaceted scope of contemporary pharmacy practice. |

| **PHRD 3300** Experient Prac I 1.0 cr. |
| Christopher J. Turner, B. Pharm., Ph.D., Catherine Jarvis, Pharm.D., Prerequisites – PHRD 3000, P1 status. |
| These two sequential (Fall P1, Spring P1) Pass/Fail format introductory pharmacy practice experience (IPPE) courses are comprised of traditional introductory and didactic classes, multiple periods of experiential training, and writing and other assignments. |

| **PHRD 3400** Prin Of Drug Info 1.0 cr. |
| Hilda Bi, Pharm.D. Prerequisites – PHRD 3000 P1 status. |
| This course is designed to introduce concepts and skills required to locate and evaluate drug literature and to respond to drug information requests in an efficient manner. |

| **PHRD 3410** Health Care Econ 1.0 cr. |
| Marianne McCollum, Ph.D. Prerequisites – PHRD 3000, P1 status. |
| Knowledge of key concepts of health care economics is essential for successful career development. This course introduces students to these concepts, and provides the background necessary for future courses concerning the structure and financing of health care. |

| **PHRD 3500** Pharmacy Law 2.0 cr |
| Louis Diamond, Ph.D., Prerequisites – PHRD 3000, P1 status. |
| The course begins with an introduction to law, including the Constitution, the role of laws and regulations, the judicial system and process, and administrative agencies, with emphasis on regulation of business in general and pharmacy practice in particular. |

| **PHRD 3550** Health Care Ethics .6 cr. |
| Louis Diamond, Ph.D., Prerequisites – PHRD 3000, P1 status. |
| A course designed to provide students with foundational knowledge and skills in responsible professional behavior that will enable them to competently reflect upon, address and resolve the ethical and social/cultural issues students will confront during their training and professional practice. |

| **PHRD 3600** Sci Founds I 3.0 cr. |
| Tom Anchordoquy Ph.D. Prerequisites – PHRD 3000, P1 status. |
| The main goal of this course is to relate general principles of chemistry and energetics (thermodynamics and kinetics) to drug stability and bioavailability, pharmacologic action, and interactions with biological macromolecules. |

| **PHRD 3610** Sci Founds II 4.0 cr. |
| David Bain, Ph.D. Prerequisites – PHRD 3600, P1 status. |
| The goals of this course are to build a strong knowledge base in biochemistry and cell biology and link biochemical principles to cellular function, describe how various diseases and errors in metabolism relate to biochemical defects in the cell. |
PHRD 4100 Prof Skills Dev III  
David Thompson, Ph.D., Susan Paulsen, Pharm. D. Prerequisites – PHRD 3150, P2 status.
This course is the third in a five-semester longitudinal course sequence intended to develop a broad range of skills necessary for current and future pharmacy practice. It is designed to parallel the didactic portion of the curriculum.

PHRD 4200 Instr Methods I  
Carol Balmer, Pharm.D., P2 status.
This course focuses on development of essential components of pharmacy-related teaching skills, including preparation of learning objectives, outlines, visual aids, and multiple choice questions, and will review presentation skills.

PHRD 4300 Exp Prac III  
Christopher Turner, Ph.D., Samuel Ellis, Pharm.D. (PHRD 4300), Prerequisites – PHRD 3350, P2 status.
The first of the three, sequential, introductory pharmacy practice experience (IPPE) courses are that comprised of introductory classes, multiple periods of experiential training in a variety of practice settings, presentations by external speakers, writing and self-learning assignments, and exams.

PHRD 4400 PHC III: Evid-based Pract  
Rob Valuck, Ph.D. Prerequisites: PHRD 3450, P2 status.
This course is designed to introduce students to the quantitative methods most commonly used in applied clinical research and prepare them to interpret the results, and evaluate the appropriateness of statistical analyses used in pharmacotherapy research studies.

PHRD 4500 Health Care Ethics  
Louis Diamond, Ph.D. Prerequisites: PHRD 3550, P2 status.
A course designed as a continuation of PHRD 3550.

PHRD 4600 Clinical Sci Founds  
David Thompson, Ph.D. Prerequisites – PHRD 3650, P2 status.
This course is divided into two distinct sections: (i) Biopharmaceutics and Pharmacokinetics, which focuses on the application of basic principles of these disciplines to the clinical use of pharmacological agents with the object of optimizing drug therapy.

PHRD 4700 IOS III/IV:F,E,A,B,Ren/Card  
Sheryl Vondracek, Pharm.D. Prerequisites – PHRD 3750, PHRD 3760, P2 status.
This first part of this course provides students with foundational knowledge of pharmacology and medicinal chemistry of diuretics and pathophysiology and therapeutics of acute and chronic renal failure. The second part deals with the cardiovascular system in health and disease.

PHRD 5100 Prof Skills Dev V  
Connie Valdez, Pharm.D., Brian Hemstreet, Pharm.D. Prerequisites – PHRD 4150, P3 status.
This course is the fifth in a five-semester longitudinal course sequence intended to develop a broad range of skills necessary for current and future pharmacy practice. It is designed to parallel the didactic portion of the curriculum.

PHRD 5200 Sem on Pharm Iss V  
Mark Ruscin, Pharm.D., Jacci Bainbridge, Pharm.D. Prerequisites – PHRD 4250, P3 status.
This one credit hour course will provide the Pharm.D. student the opportunity to participate in a formal, weekly seminar series as a speaker, self-evaluator, active member of the audience, and session coordinator.

PHRD 5300 Exp Prac V  
Chris Turner, Ph.D. Prerequisites – PHRD 4250, P3 status.
The third of the sequential introductory pharmacy practice experience (IPPE) courses are that comprised of introductory classes, multiple periods of experiential training in a variety of practice settings, presentations by external speakers, writing and self-learning assignments, and exams.

PHRD 5400 PHC VI – Pop Based Pract  
Patrick Sullivan, Ph.D. Prerequisites – PHRD 4450, P3 status.
This course will introduce the concepts of pharmacoeconomics in a manner that will build upon the student’s previous exposure to evidence-based pharmacy practice, health economics and the health care system.

PHRD 5700 IOS IX: Endo, Derm, Opth  
Laura Hansen, Pharm.D. Prerequisites – PHRD 4750, PHRD 4760, PHRD 4770, P3 status.
This course is divided into four sections based on organ system (i.e. 1-endocrine (diabetes); 2-opthamology, otics, and dermatology; 3-endocrine (hormones and women’s health); and 4-osteoporosis, corticosteroids, and genitourinary).

PHRD 5710 IOS X: Infec Dis  
Jacci Bainbridge, Pharm.D. Prerequisites – PHRD 4750, PHRD 4760, PHRD 4770, P3 status.
Class is intended to provide student with an understanding of (i) the functioning of the immune system in health and disease, (ii) the role of pathogens in causing infections, and (iii) the therapeutic applications of antimicrobial agents in combating infections.
PHRD 5720 IOS XI: Infec Dis  
Brian Hemstreet, Pharm.D. Prerequisites – PHRD 5710, P3 status.  
Continuation of the 5710 second part of the semester.  
This course is intended to provide the student with an understanding of (i) the biology of human pathogens, (ii) the role and mechanisms of various pathogens in causing infections.

PHRD 5800 Pharmkntcs &Tox  
Prerequisites – P3 status.  
The following topics will be covered: Introduction to PK and ADME, Linear Models, Complicated Linear Models, Linear Multiple Dose, Non-compartmental and System Analysis, Physiologically-based Pharmacokinetics, Urinary Excretion and Hepatic Elimination, Absorption Analysis and Bioavailability.

PHRD 6700 PharmD Clerkship  
Christopher Turner, Ph.D.

PHRD 3150 Prof Skills Dev II  
David Thompson, Ph.D., Robert Page, Pharm.D. Prerequisites – PHRD 3100  
Second semester of three-year course intended to develop broad range of skills necessary for current and future pharmacy practice. Designed to parallel the didactic portion of curriculum, integrating and applying essential knowledge, skills and attitudes required for successful professional career.

PHRD 3350 Exp Prac II  
Catherine Jarvis, Pharm.D., Christopher Turner, B.Pharm., Ph.D., Prerequisites – PHRD 3300  
This course focuses on service learning. Each pharmacy student will be partnered with a small group of elementary school students to teach a series of six general nutrition and physical activity modules.

PHRD 3450 PHC II: US Hlth Care  
Kavita Nair, Pharm.D. Prerequisites – PHRD 3400  
The goal of the course is to educate students about the complexities of the health care delivery system. With an increasing emphasis on prescription medications, now, more than ever, pharmacists are an integral part of the health care system.

PHRD 3650 Prin Drug Action  
David Thompson, Ph.D. Prerequisites – PHRD 3600; PHRD 3610  
Building upon Science Foundations from last semester, this course aims to introduce the student to basic pharmacodynamic and pharmacokinetic determinants of drug action, drug interactions, and the genetic basis for inter-individual differences in response to drug efficacy and toxicity.

PHRD 3750 IOS I: Physiology  
David Thompson, Ph.D. Prerequisites – PHRD 3600; PHRD 3610  
IOS1 introduces students to human physiology through a systematic study of the nervous, motor, cardiovascular, renal, endocrine and gastrointestinal systems.

PHRD 3760 IOS II: Auton Autacoids  
David Thompson, Ph.D. Prerequisite – PHRD 3750  
Class is intended to provide student with understanding of (i) physiology and pathophysiology of autonomic nervous system, nervous somatic system and autacoids, (ii) importance of drug chemical structure on pharmacological and therapeautic actions, (iii) therapeutic applications of drugs which influence or mimic these systems.

PHRD 4150 Prof Skills Dev IV  
Connie Valdez, Pharm. D., Heather Ulrich, Pharm. D. Prerequisites – PHRD 4100, P2 status.  
This is the fourth in a five-semester longitudinal course sequence intended to develop a broad range of skills necessary for current and future pharmacy practice. It is designed to parallel the didactic portion of the curriculum.

PHRD 4250 Instr Methods II  
Laura Hansen, Pharm.D., Susan Paulsen, Pharm.D., David Hill, Ed.D., FCSHP, Prerequisites – PHRD 4200, P2 status.  
This course is intended to reinforce the student’s understanding of techniques that are used to develop and effectively present a relevant healthcare topic and prepare the student for future presentations and seminars.

PHRD 4350 Exp Prac IV  
Christopher Turner, Ph.D. Prerequisites – PHRD 4300, P2 status.  
Second year course builds on the first year experiential program to further develop understanding of professional and general competencies required to practice pharmacy and to increase the skill level of students in the application of these competencies in pharmacy practice.
PHRD 4450 PHC IV: Informatics 1.0 cr.
Hilda Bi, Pharm.D. Prerequisites – PHRD 4400, P2 status.
This course builds upon previous introductory courses in drug literature evaluation and evidence-based practice.

PHRD 4750 IOS VI: Immunol 4.0 cr.
Carol Balmer, Pharm.D. Prerequisites - PHRD 4700, 4710, 4720, P2 status.
This course covers the normal immune and hematopoietic systems, immunopharmacology and the pathophysiology of diseases that fall into two conceptually distinct, but often overlapping and interrelated areas – malignancies of solid organ origin and diseases of the immune system.

PHRD 4760 IOS VII: GI, Nutrition 2.0 cr.
Rob MacLaren, Pharm.D. Prerequisites – PHRD 4750, P2 status.
This course is intended to provide the student with an understanding of (i) the functioning of nutrition and the gastrointestinal system in health and disease.

PHRD 4770 IOS VIII: CNS 4.0 cr.
Jacci Bainbridge, Pharm.D. Prerequisites – PHRD 4750, 4760, P2 status.
This class is intended to provide the student with an understanding of the functioning of the central nervous system (CNS) in health and disease.

PHRD 5250 Sem on Pharm 1.0 cr.
Jacci Bainbridge, Pharm.D., Mark Ruscin, Pharm.D., Samuel Ellis, Pharm.D., Prerequisites – P3 status. Continuation of PHRD 5200.
This one credit hour course will provide the Pharm.D. student the opportunity to participate in a formal, weekly seminar series as a speaker, self-evaluator, active member of the audience, and session coordinator.

PHRD 5350 Exp Prac VI 2.0 cr.
Chris Turner, Ph.D. Prerequisites – PHRD 5300, P3 status.
This 2 credit hour course will comprise one period for course introduction and 20 hours of experiential training at a non-pharmacy patient care site. Students will be assigned a non-pharmacist preceptor at their practice site.

PHRD 5650 Comp Patient Care I 9.0 cr.
Joseph Saseen, Pharm.D., Sheryl Vondracek, Pharm.D., Sunny Linnebur, Pharm.D.
Comprehensive Patient Care is a Pass/Fail capstone course designed to lend continuity and cohesiveness to the entire curriculum, through integration and application of essential knowledge, skills and attitudes required for a successful professional career.

PHRD 5850 Ger Pharm Elec 2.0 cr.
Mark Ruscin, Pharm.D., Sunny Linnebur, Pharm.D. Prerequisite – P3 status.
This course is intended to provide the student with an advanced understanding of pharmacotherapy in older adults as well as common medical, psychological, and social issues encountered when caring for older adults.

PHRD 5855 Ind. Study Elective 2.0 cr.
Susan Paulsen, Pharm.D. Prerequisite – P3 status.

PHRD 5860 Integrative Med Elec 2.0 cr.
Susan Paulsen, Pharm.D. Prerequisite – P3 status.
This two credit, one-semester course is designed to develop a broad knowledge base in the field of complimentary and alternative medicine.

PHRD 5865 Research Elec var. cr.
Kathleen Stringer, Pharm.D. Crosslisted Courses: PHPR 4650, PHSC 4650.
The student is expected to conduct clinical and/or laboratory-based research with a regular, full-time member of the School of Pharmacy faculty.

PHRD 5870 Pediatric Pharm Elec 2.0 cr.
Catherine Jarvis, Pharm.D. Prerequisite – P3 status.
This course will be offered to students interested in developing and fostering their knowledge and assessment of childhood diseases and pharmacotherapy. Clinical pharmacy specialists and staff from the Children’s Hospital of Denver will teach this course.

PHRD 5875 Pharm Man Elec 2.0 cr.
David Hill, Ed.D. Prerequisites – P3 status.
An introduction to the principles, skills, and issues important to the successful management of a pharmacy enterprise. While the course is largely concerned with application to community pharmacy, relevant comparisons will be made for the hospital pharmacy setting.

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**PHRD 5880 Subst Abuse**
2.0 cr.
David Thompson, Ph.D. Prerequisite – P3 status.
This course aims to provide the student with a database concerning the basic pharmacology, toxicology, treatment and biopsychosocial aspects of substance abuse and addiction.

**PHRD 5895 Medical Spanish**
2.0 cr.
Connie Valdez, Pharm.D. Prerequisite – P3 status.
This Beginning Medical Spanish course, tailored for pharmacy students, is designed to allow students to become comfortable with conversational Spanish and medical vocabulary in various pharmaceutical contexts. Language learning is both academic and experiential.

**PHRD 6100 Drug Info Portfolio**
2.0 cr.
Christopher Turner, Pharm.D. Prerequisite – P4 status.
This experiential drug information component of the curriculum is conducted through a longitudinal approach during the clerkship year. Each student will be responsible to develop a portfolio documenting his/her drug information-related activities while on various rotations.

**PHRD 6700 PharmD Clerkship**
6.0 cr.
Christopher Turner, Ph.D. Prerequisite – P4 status.

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**SUMMER SEMESTER**

**PHSC 3030 Intro to Pharm Sci**
6.0 cr.
B. Brunson and T. Anchordoquy, Ph.D. Prerequisites - Instructor approval.
Comprehensive course that consists of Biochemistry, Physiology, Pharmaceutics, and preceptor experience. Course is designed to integrate learning skills, problem solving and critical thinking skills with course content and offer students a preview into the diverse options available in pharmacy practice.

**PHRD 6700 PharmD Clerkship**
6.0 cr.
Christopher Turner, Ph.D. Prerequisite – P4 status.
EXTERNAL DOCTOR OF PHARMACY PROGRAM
(The pharmacy curriculum is subject to change without notice. All courses are restricted to students in the Nontraditional Doctor of Pharmacy Program)

**FALL SEMESTER**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Faculty/Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRDO 5010</td>
<td>Immunology</td>
<td>3.0 cr.</td>
<td>Faculty.</td>
</tr>
<tr>
<td></td>
<td>Course includes basic concepts of immunology, immunopathology, immunopharmacology and immunotherapy. This course is recommended prior to ADSM III (Peds/ID) and ADSM IV (Oncol/Rheum DO, PRDO 5340), but is not a prerequisite.</td>
<td></td>
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</tr>
<tr>
<td>PRDO 5320</td>
<td>ADSM II</td>
<td>4.0 cr.</td>
<td>Faculty. Prerequisite: PRDO 5700.</td>
</tr>
<tr>
<td></td>
<td>Advanced Disease State Management Gastrointestinal Disorders, Nutrition &amp; Critical Care – course combines pathophysiology, advanced pharmacotherapeutics management, patient assessment, and professional skills development for patients with common gastrointestinal and nutritional disorders, and for critical care.</td>
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<td></td>
</tr>
<tr>
<td>PRDO 5330</td>
<td>ADSM III</td>
<td>4.0 cr.</td>
<td>Faculty. Prerequisite: PRDO 5700.</td>
</tr>
<tr>
<td></td>
<td>Advanced Disease State Management Infectious Diseases &amp; Pediatrics – course combines pathophysiology, advanced pharmacotherapeutics management, patient assessment, and professional skills development for infectious diseases and pediatrics disorders.</td>
<td></td>
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</tr>
<tr>
<td>PRDO 5350</td>
<td>ADSM V</td>
<td>4.0 cr.</td>
<td>Psychiatry, Neurology, and Geriatrics Faculty. Prerequisite: PRDO 5700.</td>
</tr>
<tr>
<td></td>
<td>Advanced Disease State Management: Psychiatry, Neurology &amp; Geriatrics – course combines pathophysiology, advanced pharmacotherapeutics management, patient assessment, and professional skills development for neurologic, psychiatric, and geriatric disorders.</td>
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<td></td>
</tr>
<tr>
<td>PRDO 5360</td>
<td>ADSM VI</td>
<td>4.0 cr.</td>
<td>Faculty. Prerequisite: PRDO 5700.</td>
</tr>
<tr>
<td></td>
<td>Advanced Disease State Management: Endocrine, Hematology &amp; Pulmonary Disorders – course combines pathophysiology, advanced pharmacotherapeutics management, patient assessment, and professional skills development for patients with endocrinology, hematology, and pulmonary disorders.</td>
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<tr>
<td>PRDO 5700</td>
<td></td>
<td>2.0 cr.</td>
<td>Faculty.</td>
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<tr>
<td></td>
<td>Clinical Skills Foundation- combines three components that provide foundation for ADSM courses: (1) orientation to patient assessment and skills development; (2) pharmacokinetics and pharmacodynamics; (3) advanced disease state management for fluids, electrolytes, and acid-base disorders. Prerequisite for ADSM courses.</td>
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</table>

**SPRING SEMESTER**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Faculty/Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRDO 5240</td>
<td></td>
<td>3.0 cr.</td>
<td>D. Casdorph. Prerequisites: PRDO 5460 &amp; PRDO 5560.</td>
</tr>
<tr>
<td></td>
<td>Evidence Based Pharmacy Practice – course introduces the pharmacist to the concepts and analytical foundation underlying evidence-based pharmacy practice. Includes fundamentals of research design, biostatistics, data analysis, and pharmacoconomics.</td>
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<tr>
<td>PRDO 5310</td>
<td>ADSM I</td>
<td>3.5 cr.</td>
<td>Faculty. Prerequisite: PRDO 5700.</td>
</tr>
<tr>
<td></td>
<td>Advanced Disease State Management: Cardiovascular &amp; Renal Disorders – course combines pathophysiology, advanced pharmacotherapeutics management, patient assessment, and professional skills development for patients with common cardiovascular and renal disorders.</td>
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</tr>
<tr>
<td>PRDO 5340</td>
<td>ADSM IV</td>
<td>4.0 cr.</td>
<td>Faculty. Prerequisite: PRDO 5700; PRDO 5010 recommended.</td>
</tr>
<tr>
<td></td>
<td>Advanced Disease State Management: Oncology and Rheumatology Disorders – course combines pathophysiology, advanced pharmacotherapeutics management, patient assessment for patients with oncology and rheumatology disorders.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PRDO 5350</td>
<td>ADSM V</td>
<td>4.0 cr.</td>
<td>Psychiatry, Neurology, and Geriatrics Faculty. Prerequisite: PRDO 5700.</td>
</tr>
<tr>
<td></td>
<td>Advanced Disease State Management: Psychiatry, Neurology &amp; Geriatrics – course combines pathophysiology, advanced pharmacotherapeutics management, patient assessment, and professional skills development for neurologic, psychiatric, and geriatric disorders.</td>
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<td></td>
</tr>
</tbody>
</table>
PRDO 5360 ADSM VI
Faculty. Prerequisite: PRDO 5700.
Advanced Disease State Management: Endocrine, Hematology & Pulmonary Disorders – course combines pathophysiology, advanced pharmacotherapeutics management, patient assessment, and professional skills development for patients with endocrinology, hematology, and pulmonary disorders.

PRDO 5700
Faculty. Prerequisite: PRDO 5700.
Clinical Skills Foundation- combines three components that provide foundation for ADSM courses: (1) orientation to patient assessment and skills development; (2) pharmacokinetics and pharmacodynamics; (3) advanced disease state management for fluids, electrolytes, and acid-base disorders. Prerequisite for ADSM courses.

SUMMER SEMESTER

PRDO 5320 ADSM II
Faculty. Prerequisite: PRDO 5700.
Advanced Disease State Management Gastrointestinal Disorders, Nutrition & Critical Care – course combines pathophysiology, advanced pharmacotherapeutics management, patient assessment, and professional skills development for patients with common gastrointestinal and nutritional disorders, and for critical care.

PRDO 5340 ADSM IV
Faculty. Prerequisites: PRDO 5700; PRDO 5010 recommended.
Advanced Disease State Management: Oncology and Rheumatology Disorders – course combines pathophysiology, advanced pharmacotherapeutics management, patient assessment for patients with oncology and rheumatology disorders.

PRDO 5460
Faculty. Prerequisites: PRDO 5240 & PRDO 5700
Advanced Drug Literature Evaluation & Clinical Applications – course will strengthen the skills necessary to allow practicing pharmacists to provide accurate, unbiased, and relevant drug information.

PRDO 5560 Instructional Methods with Seminars in Pharmaceutical Care
Faculty. Prerequisites: PRDO 5240, PRDO 5460 and 2 ADSM Courses.
Instructional Methods with Seminars in Pharmaceutical Care – provides the pharmacist with basic skills in lecture development and presentation. Presentations include development of powerpoint slides, one short presentation, and a videotaped presentation.

COLORADO SCHOOL OF PUBLIC HEALTH

The following courses, listed alphabetically by department, have been approved for graduate credit.

BIOINFORMATICS

BIOI 7210 Introduction to Computer Science
Dr. D. Lezotte (Fall) Prereq: CU-Boulder CSCI 3155 or equivalent. Cross-listed: CU-Boulder CSCI-5582.
Overview of artificial intelligence methods, theories, and applications. Relationships between artificial intelligence and psychology, linguistics, and philosophy. Introduction to artificial intelligence programming.

BIOI 7410 Introduction to Bayesian Statistics
Dr. M. Fitzgerald (Fall) Prereq: MATH 3800 or MATH 4810 and MATH 4820 or equivalent. Cross-listed: MATH 5396.
Introduction to Bayesian Statistical Methods. Covers prior and posterior distributions, conjugate models, single and multi parameter models, hierarchical models, mixture models, numerical methods for evaluating posterior distributions, Monte Carlo methods and Markov chain Monte Carlo simulations.

BIOI 7412 Mathematics for Biocentists
Dr. S. Billups (Fall) Prereq: Consent of instructor. Cross-listed: MATH 5198.
Develops mathematical reasoning; introduces linear algebra, discrete structures, graph theory, probability, and differential equations using applications to molecular biology.
BIOI 7601  Selected Topics in Biomedical Science for Bioinformatics Students 1 3.3 cr.
Faculty (Fall) Prereq: Consent of instructor. Cross-listed: IDPT 7801.
Selected topics in structural, cellular and molecular biology chosen from lectures offered in IDPT 7801.

BIOI 7602  Selected Topics in Biomedical Science for Bioinformatics Students 2 3.3 cr.
Faculty (Fall) Prereq: Consent of instructor. Cross-listed: IDPT 7802.
Selected topics in structural, cellular and molecular biology chosen from lectures offered in IDPT 7802.

BIOI 7603  Selected Topics in Biomedical Science for Bioinformatics Students 3 3.4 cr.
Faculty (Fall) Prereq: Consent of instructor. Cross-listed: IDPT-7803.
Selected topics in structural, cellular and molecular biology chosen from lectures offered in IDPT 7803.

BIOI 7605  Ethics and Values in Computational Bioscience Research 1.0 cr.
Dr. M. Yarborough (Spring) Prereq: Computational bioscience PhD student or consent of instructor.
This course will examine the philosophical basis for current research ethics practices, address current ethical issues and controversies in bio-computational research, and provide students with knowledge and analytical skills to address the ethical dimensions of biomedical informatics.

BIOI 7606  Statistics for the Basic Sciences 3.0 cr.
Dr. D. Everett (Fall) Cross-listed: BIOS 6606, BIOS 6607.
This course provides an overview of fundamental concepts in statistics such as hypothesis testing and estimation and it provides an overview of statistical methods (for example, regression and analysis of variance) that apply to many areas of science.

BIOI 7655  Statistical Methods in Genetic Association Studies 3.0 cr.
Dr. T. Fingerlin (Fall, next offered Fall 2009) Cross-listed: BIOS 6655. Prereq: BIOS 6612 or consent of instructor.
This course is designed to give an introduction to statistical methods in genetic association studies. Topics include an introduction to population genetics topics relevant to genetic association studies, design strategies and analysis methods for case-control and family data.

BIOI 7659  Statistical Methods in Bioinformatics 2.0 cr.
Dr. K. Kechris (Fall) Prereq: BIOS 6611 or equivalent graduate level statistics class with consent of instructor. Cross-listed: BIOS 6659.
This course will give an introduction to statistical methods for analyzing molecular sequences and genomic data. Topics include hidden Markov models for sequence alignment, molecular evolution and gene expression data analysis.

BIOI 7710  Survey of Bioinformatics Methods 2.0 cr.
Dr. L. Hunter (Fall) Prereq: Consent of instructor. Restrictions: Bioinformatics PhD students cannot take this course for credit.
What is bioinformatics and why study it? How is large-scale molecular biology data generated, where and how can researchers gain access to it, and what computational analyses are possible?

BIOI 7711  Bioinformatics I 4.0 cr.
Dr. L. Hunter (Fall) Prereq: Bioinformatics PhD student or consent of instructor. Cross-listed: PHCL 7611.
What is bioinformatics and why study it? How is large-scale molecular biology data generated, where and how can researchers gain access to it, what computational analyses are possible and computational techniques for solving inference problems in molecular biology?

BIOI 7712  Bioinformatics II 4.0 cr.
Dr. L. Hunter (Spring) Prereq: BIOI 7711
Inference problems and computational techniques for molecular biology, with emphasis on machine learning approaches. Use of computational induction techniques focused on information extraction from biomedical literature, inference of biochemical networks from high-throughput data, and prediction of protein function.

BIOI 7785  Independent Study in Bioinformatics 1-3 cr.
Dr. D. Lezotte (Fall, Spring, Summer) Prereq: Consent of instructor.
This course is for the advanced student who desires to pursue one or more bioinformatics-related topics in considerable depth. Supervision by a full-time faculty member is necessary.

BIOI 7791  Readings in Bioinformatics 1.0 cr.
Dr. D. Lezotte (Fall, Spring, Summer) Prereq: Consent of instructor.
A seminar course in which students read and present recent publications from the primary bioinformatics literature.
BIOI 7792  Special Topics in Bioinformatics  1-3 cr.  
Dr. D. Lezotte  (Fall, Spring, Summer)  Prereq: Consent of instructor.  
Special topics course with focus on new emerging bioinformatics and computational biology problems and techniques.

BIOI 8990  Doctoral Thesis  1-10 cr.  
Dr. D. Lezotte  (Fall, Spring, Summer)  Prereq: Consent of instructor.  
Doctoral thesis work in Bioinformatics.

BIOSTATISTICS

BIOS 6601  Applied Biostatistics I  3.0 cr.  
Faculty  (Fall)  
An introduction to statistical methods in the health sciences emphasizing the use of statistics to answer research questions. Content includes descriptive and statistical inference; statistical methods include t-tests, chi-square tests, one-way ANOVA, and simple linear regression. Statistical software is used.

BIOS 6602  Applied Biostatistics II  3.0 cr.  
Dr. L. Ogden  (Spring)  Prereq: BIOS 6601.  
A continuation of BIOS 6601 extending the basic principles of descriptive and inferential statistics to modeling more complex relationships using linear regression, logistic regression, Poisson regression, and Cox regression. The statistical package SAS is used extensively.

BIOS 6606  Statistics for the Basic Sciences  3.0 cr.  
Dr. D. Everett  (Fall)  Restrictions: Enrollment in UCD graduate program or permission of the instructor.  
This course provides an overview of fundamental concepts in statistics such as hypothesis testing and estimation, and it provides an overview of statistical methods (for example, regression and analysis of variance) that apply to many areas of science.

BIOS 6607  Statistics for Pharmacology  2.0 cr.  
Dr. D. Everett  (Fall)  Course restrictions: Enrollment in UCD graduate program or permission of the instructor.  
This course provides an overview of fundamental concepts in statistics such as hypothesis testing and estimation, and it provides an overview of statistical methods (for example, 1- and 2- sample tests and microarray techniques) that apply to pharmacology.

BIOS 6611  Biostatistical Methods I  3.0 cr.  
Faculty  (Fall)  Prereq: Differential calculus.  
Mathematically sophisticated first course in applied statistics covers elementary probability, descriptive, parametric and nonparametric methods for one and two sample estimation and testing, and some common simple cases of the univariate general linear model. The statistical package SAS used extensively.

BIOS 6612  Biostatistical Methods II  3.0 cr.  
Dr. L. Ogden  (Spring)  Prereq: BIOS 6611.  
A mathematically sophisticated presentation of linear models, emphasizing multiple regression and analysis of variance. Logistic regression and methods for correlated data are also covered. Matrix algebra and the statistical package SAS will be used extensively.

BIOS 6621  Statistical Consulting  1.0 cr.  
Dr. G. Grunwald  (Fall, Spring)  Coreq: BIOS 6611 and consent of instructor/program director.  
Students will gain experience with statistical consulting and common statistical problems and techniques encountered in consulting through a combination of real examples and consultations with investigators. Under faculty supervision, advanced students will work on consulting projects with investigators.

BIOS 6631  Statistical Theory I  3.0 cr.  
Dr. D. Glueck  (Fall)  Prereq: Differential and integral calculus.  
This course presents an introductory coverage of the theory of discrete and continuous random variables and applications to statistical problems. Topics include probability theory, transformations and expectations, common families of distributions, multiple random variables, and properties of a random sample.

BIOS 6632  Statistical Theory II  3.0 cr.  
Dr. S. MaWhinney  (Spring)  Prereq: Differential and integral calculus.  
This course covers theoretical and applied fundamentals of statistical inference. The course is a continuation of BIOS 6631. The primary topics include point estimation, hypothesis testing, interval estimation and asymptotic methods.
<table>
<thead>
<tr>
<th>Course Code</th>
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<th>Credits</th>
<th>Instructor(s)</th>
<th>Prerequisites/Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOS 6646</td>
<td>Survival Analysis</td>
<td>2.0 cr.</td>
<td>Dr. A. Barón (Spring)</td>
<td>Prereq: BIOS 6611 and BIOS 6631. Coreq: BIOS 6612 and BIOS 6632. Nonparametric methods for group comparisons and semi-parametric regression models will be emphasized. Parametric methods and distribution theory for survival analysis will also be included.</td>
</tr>
<tr>
<td>BIOS 6648</td>
<td>Design of Clinical Trials</td>
<td>2.0 cr.</td>
<td>Dr. J. Kittelson (next offered Spring 2010)</td>
<td>Prereq: BIOS 6611 or BIOS 6601. The design and conduct of human intervention trials. Specific topics include: specifying the research question, study endpoints, study populations, study treatments, sample size evaluation, and choice of control groups. Common trial designs and issues in trial monitoring are described.</td>
</tr>
<tr>
<td>BIOS 6649</td>
<td>Statistical Methods for Clinical Trials</td>
<td>1.0 cr.</td>
<td>Dr. J. Kittelson (next offered Spring 2010)</td>
<td>Prereq: BIOS 6611. Coreq: BIOS 6612 and 6648. This course is a companion to BIOS 6648 that focuses on statistical issues in the design and analysis of clinical trials including sample size calculations, trials with repeated measurements, and the statistical aspects of trial monitoring (group sequential designs).</td>
</tr>
<tr>
<td>BIOS 6651</td>
<td>Masters Research Paper</td>
<td>1.6 cr.</td>
<td>Dr. G. Grunwald (Fall, Spring, Summer)</td>
<td>Masters research paper in Biostatistics is completed under this course.</td>
</tr>
<tr>
<td>BIOS 6655</td>
<td>Statistical Methods in Genetic Association Studies</td>
<td>3.0 cr.</td>
<td>Dr. T. Fingerlin (next offered Fall 2009)</td>
<td>Prereq: BIOS 6612 or consent of instructor. This course is designed to give an introduction to statistical methods in genetic association studies. Topics include an introduction to population genetics topics relevant to genetic association studies, design strategies, and analysis methods for case-control and family data.</td>
</tr>
<tr>
<td>BIOS 6659</td>
<td>Statistical Methods in Genomics</td>
<td>2.0 cr.</td>
<td>Dr. K. Kechris (Fall)</td>
<td>Prereq: BIOS 6611 or equivalent graduate level statistics course with consent of instructor. Cross-listed: BIOI 7659. This course will give an introduction to statistical methods for analyzing molecular sequences and genomic data. Topics include hidden Markov models for sequence alignment, molecular evolution and gene expression data analysis.</td>
</tr>
<tr>
<td>BIOS 6680</td>
<td>SAS Database Design and Management</td>
<td>3.0 cr.</td>
<td>J. Bondy (Fall)</td>
<td>This course introduces students to SAS programming, specifically how SAS can be used to manipulate data and prepare it for analysis. Principles of database design and how they can be implemented with PROC SQL will also be discussed.</td>
</tr>
<tr>
<td>BIOS 6840</td>
<td>Research in Biostatistics</td>
<td>1.3 cr.</td>
<td>Dr. G. Grunwald (Fall, Spring, Summer)</td>
<td>Prereq: Consent of Program Director. Resources of the program are available to those students who elect to carry out research in chosen topics. A faculty member will provide guidance throughout the project.</td>
</tr>
<tr>
<td>BIOS 6950</td>
<td>Masters Thesis</td>
<td>1.6 cr.</td>
<td>Dr. G. Grunwald (Fall, Spring, Summer)</td>
<td>Biostatistics Masters thesis work is completed under this course.</td>
</tr>
<tr>
<td>BIOS 7711</td>
<td>Longitudinal Data Analysis</td>
<td>3.0 cr.</td>
<td>Dr. M. Strand (Fall)</td>
<td>Prereq: BIOS 6612. The theory and application of univariate and multivariate techniques appropriate for longitudinal data are discussed with emphasis on recently developed growth curve and longitudinal models. Students will be exposed to theoretical developments and will analyze real data.</td>
</tr>
<tr>
<td>BIOS 7712</td>
<td>Statistical Methods for Correlated Data</td>
<td>1.0 cr.</td>
<td>Dr. G. Grunwald (Spring)</td>
<td>Prereq: BIOS 7711. This course will cover statistical models and methods for serially correlated data, including autoregressive models, Markov models, and Markov Chain Monte Carlo methods.</td>
</tr>
<tr>
<td>BIOS 7713</td>
<td>Statistical Methods for Missing Data</td>
<td>2.0 cr.</td>
<td>Dr. D. Fairclough (Spring)</td>
<td>Prereq: BIOS 7711 and BIOS 7712. This course covers methodological research being carried out for longitudinal studies with missing data. Topics include missing data mechanisms, non--ignorable missing data, multiple imputation, mixture models and sample size determination. Students will complete a project applying methods to real datasets.</td>
</tr>
</tbody>
</table>
BIOS 7899 Independent Study in Biostatistics 1-3 cr.
Dr. G. Grunwald (Fall, Spring, Summer) Prereq: Consent of Program Director.
This course is for the advanced student who wishes to pursue one or more topics in depth. These topics may involve biostatistical material or biological material necessary to the student’s biostatistical work. Supervision by a full-time faculty member is necessary.

BIOS 8990 Doctoral Thesis 1-10 cr.
Dr. G. Grunwald (Fall, Spring, Summer)
PhD dissertation work is completed under this course.

COMMUNITY AND BEHAVIORAL HEALTH

CBHS 6610 Social and Community Factors in Health 3.0 cr.
Dr. L. Crane (Spring)
Course considers the social/community factors affecting health status, seeking and providing health care. Cross-cultural concepts of health and disease are reviewed. The measurement of selected social/psychological factors, including demographic, socioeconomic and life style indicators and use in epidemiological studies emphasized.

CBHS 6611 Foundations of Health Behavior 3.0 cr.
Drs. J. Leiferman, Sheana Bull (Fall)
Course will cover basic theories, concepts, and models from a range of social/behavioral disciplines used in public health research and practice. Applications of theoretical frameworks in specifying multiple targets and levels of intervention to public health research will be addressed.

CBHS 6612 Methods in Research & Evaluation 3.0 cr.
Faculty (Fall)
Course covers the range of social science research methods used in public health, including qualitative/quantitative research designs, data collection methodologies, and program evaluation, including process and outcome evaluation, for assessing the effectiveness of public health programs.

CBHS 6613 Program Planning & Implementation 3.0 cr.
Dr. E. Belansky (Fall)
Course examines planning and implementation process with focus on health promotion programs. Students will learn about: using results of needs assessments; specifying program objectives; using behavior change theory and evidence-based strategies; and developing program, evaluation, adoption, implementation & sustainability plans.

CBHS 6620 Survey Research 2.0 cr.
Dr. L. Crane (Fall)
Course examines survey research methodology, including the use of face-to-face, telephone and self-administered questionnaires. Topics include: methods of data collection; developing and ordering questions; formatting; determining reliability and validity; methods of sampling; implementation; maximizing response rate; data issues; and reporting.

CBHS 6624 Community Health Assessment 3.0 cr.
J. Baxter (Spring) Prereq: EPID 6630.
Community diagnosis provides the means of assessing the social, economic, physical, and environmental status of a community, as these factors affect the health of its population. Students will learn to use national and local demographic and health data resources.

ENVIRONMENTAL HEALTH AND OCCUPATIONAL HEALTH

EOH 6614 Environmental and Occupational Health 3.0 cr.
Dr. J. Litt (Spring) Prereq: EPID 6630
Presents an overview of information needed to assess the relationship between the environment, workplace and health. Topics include facets of industrial hygiene, air and water pollution, radiation monitoring, toxicology studies, clinical occupational medicine, and biologic monitoring. The emphasis throughout is on the epidemiologic link between exposure and health with a discussion of study methods and interpretation specific to the areas.

EOH 6615 Topics in Occupational and Environmental Medicine 2-3 cr.
Dr. B. Gottschall (Fall, Spring, Summer) Prereq: EOH 6614, EPID 6630.
Students presented with series of problems that focus on industries/environmental problems in Denver metropolitan area. The solutions to the problems involve visiting industries, consulting with experts, and learning the principles and practice of toxicology, industrial hygiene, and occupational epidemiology.
EHOH 6616  **Environmental and Occupational Toxicology**  3.0 cr.
Dr. L. Newman  (Spring)  Preq: undergraduate biology & chemistry.  Coreq: EHOH 6614; EPID 6630
This course examines basic and applied concepts of toxicology in environmental and occupational settings. Mechanisms of injury to various body systems following exposure to toxicants are examined at the systemic, organ, cellular, molecular and genetic level, with particular reference to human disease and public health.

EHOH 6617  **Environmental and Occupational Exposure Assessment**  2.0 cr.
Dr. J. Martyny  (Spring)  Preq:  EHOH 6614.  Coreq: EPID 6630
This course will provide the methodologies by which environmental hazards can be anticipated, recognized, evaluated and controlled. Methodologies to determine the degree of hazard and personal protection will be covered. Field trips and labs will provide practical experience.

EHOH 6618  **Environmental Health Policy and Practice**  2.0 cr.
Dr. J. Litt  (Spring)  Prereq:  EHOH 6614
This course provides a more in-depth examination of environmental health regulations, policies and practices by government agencies and other health-related entities at the local, state, national and international level, capturing the continuum of environmental public health core functions including water and sanitation, air quality, food safety, housing, community design, and more broadly, sustainability and health.

EHOH 6619  **Health Effects from Exposures**  2.0 cr.
Drs. C. Rose, A. Mayer  (Fall)  Recommended Prereq:  EHOH 6614;  Coreq: EPID 6630
This course will provide an understanding of the spectrum of health effects caused by occupational and environmental hazards. We will explore the settings which pose the greatest risk and emphasize the importance of early recognition, prevention, and hazard control. Field trips will provide practical experience.

EHOH 6643  **The Nuclear West**  2.0 cr.
L. Ackland  (Fall)  Course Restrictions: Permission of instructor.  Cross-listed: UCB  ENVS 5100/JOUR 5871
This interdisciplinary seminar examines historical nuclear issues in the West from perspectives of natural science, epidemiology and the news media. Topic for each session will be addressed from a matrix of issues.

**EPIDEMIOLOGY**

EPID 6622  **Cancer Prevention and Control**  2.0 cr.
Dr. T. Byers  (Summer)
Course provides an overview of the epidemiology of, and contributing factors to, preventable cancers. Phases of cancer control research and appropriate methodologies are discussed. Basic principles of intervention development are reviewed. Psychosocial issues related to cancer are discussed. Students research topics related to course.

EPID 6624  **Public Health Surveillance**  2.0 cr.
Drs. K. Gershman, A. Shupe  (Spring)
This course focuses on characteristics, development, uses, and evaluation of major public health surveillance systems. History, goals, public health authority, analysis, interpretation, dissemination and privacy issues are covered. Key surveillance systems (communicable diseases, vital statistics, injury, cancer) are explored.

EPID 6626  **Research Methods in Epidemiology**  3.0 cr.
Dr. D. Lezotte  (Spring)  Prereq: BIOS 6601, EPID 6630
Research methods topics include: cohort and case control studies, clinical trials, medical care evaluation, and survey research. Lectures and discussions cover problem statement and hypothesis formulation, study design, data collection and analysis.

EPID 6629  **Clinical Epidemiology**  1.0 cr.
Drs. D. Dabelea, J. Hokanson  (Summer)
This course provides an overview of the design, conduct, and appraisal of clinical research. Topics include choice of study design, issues in randomized trials (bias, measurement, validity), assessment of diagnostic tests, functional status measurement, meta-analysis, and use of questionnaires.

EPID 6630  **Epidemiology**  3.0 cr.
Drs. D. Dabelea, R. Hamman  (Fall)
Offers introduction to: approaches/methods used in describing the natural history of disease in the community and for locating clues to the causes of disease; analytical epidemiology used in study of disease etiology; and critical review of the medical literature.
EPID 6631  **Analytical Epidemiology**  
Dr. J. Hokanson (Fall)  Prereq: EPID 6630, BIOS 6601  
Course emphasizes analytical foundations of epidemiology and its application to etiologic studies and public health practice. Topics include determining rates of disease occurrence, assessing exposure disease relationships, stratified analysis, and measurement error and sampling. Final project requires analysis/interpretation of epidemiologic data.

EPID 6632  **Advanced Epidemiology**  
Dr. J. Marshall (Spring)  Prereq: EPID 6630, EPID 6631, BIOS 6601  
This is a course on epidemiologic methods designed to improve the student’s ability to conduct and interpret epidemiologic studies including intervention studies, cohort studies and case control studies.

EPID 6635  **Epidemiology of Communicable Disease**  
Dr. A-C. Nyquist (Spring)  Prereq: EPID 6630  
This course considers the epidemiology of selected communicable diseases. Methods for their prevention and control, and assessment of these methods, will be treated primarily through case studies.

EPID 6636  **Chronic Disease Epidemiology**  
Dr. D. Dabelea (Spring)  Prereq: EPID 6630  
The major chronic diseases of Western countries will be reviewed including heart disease, cancer, stroke, diabetes, neurological diseases, and selected other conditions. Factual information about epidemiology of these diseases will be provided with the discussion of methodological issues which arise.

EPID 6637  **Injury Epidemiology and Control**  
Dr. C. DiGuiseppi (Fall)  
Major causes of injuries in the U.S. will be reviewed. This includes motor vehicle traffic injuries, other unintentional injuries (including occupational injuries) and intentional injuries. The major components of injury control will be discussed including acute care, biomechanics, epidemiology and surveillance, and prevention/rehabilitation.

EPID 6638  **Cardiovascular Epidemiology**  
Dr. J. Hokanson (Fall)  Prereq: EPID 6630  
The course provides practical introduction to current concepts, research methods, unanswered questions in epidemiology of coronary artery disease and stroke/peripheral artery disease. It prepares students for independent work in academic/nonacademic settings in the area of cardiovascular disease surveillance, etiology and outcomes research.

EPID 6639  **Genetic and Molecular Epidemiology**  
Dr. J. Norris (Spring)  Prereq: EPID 6630, BIOS 6601  
This course reviews basic genetic principles and teaches epidemiologic methods employed in the investigation of the genetic susceptibility to chronic disease. This course also covers the methods, uses, and limitations of modern molecular technologies applied to epidemiological problems.

EPID 6646  **Methods for Systematic Reviews**  
Dr. C. DiGuiseppi (Spring)  Prereq: EPID 6630, or permission of instructor.  
Introduces the rationale and methods of conducting systematic reviews to evaluate health and community interventions. Topics will include designing systematic reviews, study identification and selection, publication bias, assessing study quality, meta-analysis, exploring heterogeneity, and reporting results through the Cochrane Library.

EPID 7911  **Epidemiologic Field Methods**  
Dr. D. Dabelea (Fall, Spring, Summer)  Prereq: EPID 6626, EPID 6630, EPID 6631, EPID 6632, BIOS 6611, BIOS 6612. Course Restrictions: Permission of instructor is required.  
PhD students have the opportunity to work with faculty on current epidemiologic projects to develop skills in field research, proposal writing, budget development, staff hiring and training, protocol and instrument development and implementation, and specific methods topics.

EPID 7912  **Developing a Research Grant**  
Dr. D. Dabelea (Fall)  Prereq: CBHS 6611, EPID 6626, EPID 6630, EPID 6631, EPID 6632, BIOS 6611, BIOS 6612. Course Restrictions: Enrollment in Epidemiology PhD Program or permission of the instructor.  
Course instructs students on how to prepare high quality, successful, research grant applications. It offers students an opportunity to familiarize themselves with the grant writing and review process, enhance critical thinking skills, formulate hypotheses and interpret results, and improve the quality of their scientific writing.
EPID 7915  Analytic Methods in Epidemiology  1-4 cr.
Dr. D. Dabelea  (Fall, Spring, Summer)  Prereq: EPID 6626, EPID 6630, EPID 6631, EPID 6632, BIOS 6611, BIOS 6612. Course Restrictions: Permission of instructor is required.
Advanced treatment of techniques in the analysis of epidemiological studies, including longitudinal, time-dependent, survival data, causality, missing data, etc. Students will analyze data sets currently on file using contemporary epidemiological methods.

EPID 8990  Doctoral Thesis  1-10 cr.
Dr. D. Dabelea  (Fall, Spring, Summer)  Prereq: Permission of the instructor.
Doctoral thesis work in Epidemiology.

HEALTH SYSTEMS, MANAGEMENT AND POLICY

HSMP 6603  Health Systems and Management  3.0 cr.
Dr. P. Barton  (Fall)
The first of a two-semester sequence to introduce students to the U.S. health care system from an organizational/ political/ social/ service delivery perspective. Students are introduced to basic components of the current health care system and basic economic principles as applied to selected aspects of the health care system.

HSMP 6604  Health Care Economics  3.0 cr.
Dr. D. Milne  (Spring)  Prereq: HSMP 6603
This course is a sequel to HSMP 6603 focusing on health care financing and economic issues. A microeconomics framework, including issues of supply, demand, market structure, market failure, price and output are discussed as they apply to the health sector.

HSMP 6605  Health Policy  3.0 cr.
D. Dauer  (Spring)  Prereq: HSMP 6603
The focus of this course will be the analysis of important U.S. health policy issues, such as access, cost and quality. Analytic concepts, approaches and frameworks will be used to explore specific significant health policy issues.

HSMP 6606  Public Health Administration  3.0 cr.
Dr. P. Barton  (Fall)
Course is designed to present technical, policy and administrative issues within the context of operational activities of community and public health agencies. Introduction to basic management skills is included.

HSMP 6607  Current Legal Issues in Health Care  2.0 cr.
D. Matthew  (Spring)
This course will explore American health care policy. Particular emphasis will be placed on the provider’s role in addressing issues of justice in health care delivery and the legal tools available to policy makers.

HSMP 6608  Ethical and Legal Issues in Public Health  2.0 cr.
Dr. M. Yarborough, D. Matthew  (Spring)
Course explores ethical/legal dimensions of various topics of concern in areas of public health, health policy, and epidemiology. Topics vary each offering but examples include: health care reform, medical indigence, screening/genetic screening, epidemiological research, public health/individual rights, and public health in developing countries.

HSMP 6609  Cost Benefit and Effectiveness in Health  3.0 cr.
Dr. S. Eisert  (Summer)
This is an intermediate-level course on the theory, methods and application of economic evaluation in the health context. Students are required to conduct an economic evaluation by collecting data and information related to a health program of interest.

HSMP 6617  Introduction to Health Services Research  2.0 cr.
Faculty  (Fall)  Prereq: HSMP 6603 and 6604
Course provides overview of the discipline of health services research (HSR). Course focuses on four major HSR dimensions and will dedicate two class sessions to each: organizing, financing, delivery, and outcomes.

HSMP 6625  Methods in Health Services Research  3.0 cr.
Faculty  (Spring)  Prereq: BIOM 6601, BIOM 6680, HSMP 6603, HSMP 6617, EPID 6626, EPID 6630. Coreq: EPID 6631
This course provides an overview of research methods in health services. The class is designed for individuals who have completed the prerequisites and who have taken or are taking EPID 6631.
HSMP 7850  Independent Study in Bioethics, Medical Humanities or Health Law  1-6 cr.
Dr. M. Yarborough  (Fall, Spring, Summer)  Permission of instructor is required.
This course is designed to meet the needs of students interested in conducting advanced studies of issues and topics in bioethics, medical humanities, or health law. Students will work under the direction of the course director on a specific research topic. Repeatable for credit within the degree program but not within a term.

PREVENTIVE MEDICINE RESIDENCY COURSES

PRMR 6628  Seminar Series in Preventive Medicine  1.0 cr.
Dr. C. DiGiuseppe  (Fall, Spring)
Seminar series designed to present recent important findings in preventive medicine. Different topics presented twice a month (except summer months) in departmental grand rounds and seminar presentations by faculty and invited guest speakers.

PUBLIC HEALTH

PUBH 6600  Foundations in Public Health  2.0 cr.
Dr. K. Kennedy  (Summer, Fall)
This course examines the historical and conceptual bases of public health, the key issues and problems faced by the public health system, and the tools available for the protection and enhancement of the public's health.

PUBH 6601  A History of Public Health  1.0 cr.
Dr. M. Johnson  (Spring)
The purpose of this course is to provide the student of public health with a broad understanding of health history and the political, economic, medical, legal and ethical factors that have shaped the environment in which the public health care professional of today must function.

PUBH 6602  Healthy People 2010  1.0 cr.
Dr. C. DiGiuseppe  (Summer)
The student will understand the development of Healthy People 2010, its organization and content, compare ways that different states use Healthy People 2010 and critically analyze a focus area or objective.

PUBH 6605  Health Equity  2.0 cr.
Dr. A. Sauaia  (Spring)
This course addresses disparities in racial and ethnic minorities, women, children, elderly, low-income, low literacy, disabled, and GLBTI by studying the institutionalized, personally mediated and internalized causes. Potential solutions and challenges encountered in the quest for health equity will be discussed.

PUBH 6619  Perspectives in International Health  2.0 cr.
Dr. K. Kennedy  (Fall)
Review of health care issues and the ways in which various national health care systems are organized or have evolved to deal with these issues. The role of governmental, multi-governmental, philanthropic, voluntary, and industrial organizations in the international health area are examined.

PUBH 6621  Maternal and Child Health  1.0 cr.
Dr. J. Leiferman  (Fall)
This course introduces students to several current issues in maternal and child health such as electronic fetal monitoring, well child care, accidents, adolescent pregnancy, child abuse, chronic illness and child advocacy.

PUBH 6641  Public Health and Aging  2.0 cr.
Dr. L. Bryant  (Spring)
This course will introduce students to 1) factors across the social-ecological spectrum that will affect population patterns of health, disease, and risk factors in older adults; and 2) appropriate responses by public health, aging services and the research community.

PUBH 6651  Research Paper  1-4 cr.
Dr. P. Barton  (Fall, Spring, Summer) Prereq: EPID 6626, EPID 6630, BIOS 6601, BIOS 6680.
Independent research project is required of all students. It is anticipated that all projects will involve the analysis of quantitative data. Students have the option of completing a written report in the form of either a thesis or a publishable research paper.
PUBH 6670  **Topics in Public Health**  1-3 cr.
Dr. P. Barton (Fall, Spring, Summer)
Special interest areas of current preventive medicine research and controversy are analyzed in depth. The course format is lecture and discussion or seminar.

PUBH 6840  **Research in Public Health**  1-3 cr.
Dr. P. Barton (Fall, Spring, Summer) Prereq: EPID 6626, EPID 6630, BIOS 6601, BIOS 6680.
Resources of the department are available to those students who elect to carry out research in chosen topics. A faculty member will provide guidance throughout the project.

PUBH 6910  **MPH Field Practicum**  2.0 cr.
Dr. P. Barton (Fall, Spring, Summer) Prereq: PUBH 6600, EPID 6630, BIOS 6601, HSMP 6603, CBHS 6610, EHOH 6614
Students may work in state and local health departments or industry. Students can participate in ongoing studies in chronic and infectious disease epidemiology, environmental health and community health planning, or develop their own project in conjunction with a preceptor.

PUBH 6950  **Master's Thesis**  1-3 cr.
Dr. P. Barton (Fall, Spring, Summer) Prereq: EPID 6626, EPID 6630, BIOS 6601, BIOS 6680.
An independent research project is required of all students as a final demonstration of acquired skills and knowledge. Students have the option of completing the written report in the form of either a thesis or a publishable research paper.

PUBH 6955  **MPH Master's Project**  2.0 cr.
Dr. P. Barton (Fall, Spring, Summer) Prereq: Consent of the instructor.
Final MPH Master's project is completed under this course.