<table>
<thead>
<tr>
<th>Event</th>
<th>Dates</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Summer 2007</strong></td>
<td></td>
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</tr>
<tr>
<td>Pre-registration: School of Nursing (continuing students)</td>
<td>April 9-April 27</td>
<td></td>
</tr>
<tr>
<td>Registration: Dental/Dental Hygiene</td>
<td>Monday, April 23</td>
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<tr>
<td>Registration: Physical Therapy</td>
<td>Monday, May 7</td>
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<tr>
<td>Pre-registration: School of Nursing (new students)</td>
<td>May 7-May 25</td>
<td></td>
</tr>
<tr>
<td>Registration: Basic Sciences (continuing students)</td>
<td>Monday, May 14</td>
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<tr>
<td>Registration: CHAPA Program</td>
<td>Monday, May 14</td>
<td></td>
</tr>
<tr>
<td>Registration: Traditional 4&lt;sup&gt;th&lt;/sup&gt; yr Pharmacy</td>
<td>Monday, May 14</td>
<td></td>
</tr>
<tr>
<td>Early Start (Dental, Dental Hygiene)</td>
<td>Monday, May 21</td>
<td></td>
</tr>
<tr>
<td>Memorial Day Holiday</td>
<td>Monday, May 28</td>
<td></td>
</tr>
<tr>
<td>Early Start (4&lt;sup&gt;th&lt;/sup&gt; yr Pharmacy)</td>
<td>Monday, May 28</td>
<td></td>
</tr>
<tr>
<td>Late registration and add/drop begins School of Nursing</td>
<td>Tuesday, May 29</td>
<td></td>
</tr>
<tr>
<td>Break (Dental/Dental Hygiene)</td>
<td>May 29-June 1</td>
<td></td>
</tr>
<tr>
<td>Last day to submit Application to Grad School for MS</td>
<td>Friday, June 1</td>
<td></td>
</tr>
<tr>
<td>Orientation: School of Nursing New B.S. students</td>
<td>Wednesday, May 30</td>
<td></td>
</tr>
<tr>
<td>Orientation: CHAPA Program</td>
<td>May 30-June 1</td>
<td></td>
</tr>
<tr>
<td>Orientation: Physical Therapy</td>
<td>May 30-June 1</td>
<td></td>
</tr>
<tr>
<td>Traditional Summer semester begins</td>
<td>Monday, June 4</td>
<td></td>
</tr>
<tr>
<td>Diploma cards due for December graduates</td>
<td>Friday, June 8</td>
<td></td>
</tr>
<tr>
<td>Last day to drop/add</td>
<td>Friday, June 8</td>
<td></td>
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<tr>
<td>Summer Ph.D. intensive courses week (School of Nursing)</td>
<td>June 11-15</td>
<td></td>
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<tr>
<td>Independence Day Holiday</td>
<td>Wednesday, July 4</td>
<td></td>
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<tr>
<td>Final exams: Dental/Dental Hygiene</td>
<td>July 18-22</td>
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<tr>
<td>Ph.D. Dissertation Boot Camp (School of Nursing)</td>
<td>TBA</td>
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</tr>
<tr>
<td>Final exams: 8-week courses (School of Nursing)</td>
<td>July 24-27</td>
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<tr>
<td>8-week courses end (School of Nursing)</td>
<td>Friday, July 27</td>
<td></td>
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<tr>
<td>Semester ends (Dental/Dental Hygiene)</td>
<td>Friday, July 27</td>
<td></td>
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<tr>
<td>Last day to take final exam/thesis defense Aug 2007 MS&amp;PhD</td>
<td>Friday, July 27</td>
<td></td>
</tr>
<tr>
<td>Last day to submit thesis (MS&amp;PhD)</td>
<td>Friday, August 3</td>
<td></td>
</tr>
<tr>
<td>Traditional Final Exam Week</td>
<td>August 6-10</td>
<td></td>
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<tr>
<td>Traditional Summer semester ends</td>
<td>Friday, August 10</td>
<td></td>
</tr>
<tr>
<td>Final exams: CHAPA</td>
<td>August 13-16</td>
<td></td>
</tr>
<tr>
<td>Final exams: Physical Therapy</td>
<td>August 13-17</td>
<td></td>
</tr>
<tr>
<td>Traditional Final grades due (by noon)</td>
<td>Wednesday, Aug 15</td>
<td></td>
</tr>
<tr>
<td>Semester ends (CHAPA,Physical Therapy,Pharmacy)</td>
<td>Friday, August 17</td>
<td></td>
</tr>
<tr>
<td>August degree award date</td>
<td>Friday, August 17</td>
<td></td>
</tr>
<tr>
<td>Final grades due (by noon) CHAPA, Physical Therapy, Pharmacy</td>
<td>Wednesday, August 22</td>
<td></td>
</tr>
<tr>
<td>Break (CHAPA)</td>
<td>August 17-23</td>
<td></td>
</tr>
<tr>
<td>Break (1&lt;sup&gt;st&lt;/sup&gt; Year Physical Therapy)</td>
<td>August 18-23</td>
<td></td>
</tr>
<tr>
<td>Break (2&lt;sup&gt;nd&lt;/sup&gt;, 3&lt;sup&gt;rd&lt;/sup&gt; Yr Physical Therapy)</td>
<td>August 18-26</td>
<td></td>
</tr>
</tbody>
</table>
Fall 2007

Registration: 1st yr Dental Hygiene Fall 2007  
Pre-registration: School of Nursing (continuing students) Fall 2007  
Orientation: 1st yr Dental Hygiene students  
Early Start (1st yr Dental Hygiene)  
Intro to Pharmacy and Orientation (first-year students)  
Last day to drop/add (1st yr Dental Hygiene)  
Pre-registration :School of Nursing (new students)  
Registration All other Dental students Fall 2007  
Registration Physical Therapy Fall 2007  
Registration: CHAPA, Basic Sciences, Pharmacy Fall 2007  
Orientation: 1st yr Dental students  
Fall semester begins (Pharmacy 4th Yr Rotation 3)  
Fall semester begins (All other Dental students)  
Late registration and drop/add begins (School of Nursing)  
Orientation: Basic Sciences  
Orientation: School of Nursing New MS, DNP, & Ph.D. students  
Orientation: School of Nursing New BS Work Site Students  
Fall semester begins (1st yr Physical Therapy)  
Traditional Fall semester begins  
Ph.D. Intensive Weeks School of Nursing  
( check course schedule for dates for specific courses)  
Rotation 1: Basic Sciences  
Labor Day Holiday (classes not in session)  
Last day to drop/add  
Classes end (3rd yr Physical Therapy)  
Break (3rd yr Physical Therapy) travel to CEIII  
Clinical Affiliation III (3rd yr Physical Therapy)  
Last day to submit Application for Graduation for MS Dec 2007 grads  
Rotation 4: 4th yr Pharmacy  
Final exam period – Block I courses (School of Nursing)  
Block I courses end (School of Nursing)  
Block II courses begin (School of Nursing)  
Rotation 5: Pharmacy  
Rotation 2: Basic Sciences (Holiday Break Nov. 22-23;Dec.15-Jan 1  
Last day to take final exam/thesis defense for Dec 2007 MS.&PhD grads  
Thanksgiving Day  
(3rd yr Physical Therapy holiday at discretion of Clinical SiteThursday, November 22)  
Thanksgiving Break (Classes not in session)  
Last day to submit thesis (MS&PhD)  
Diploma cards due for May graduates  
Final Exam Week  
Final exam period – Block II (School of Nursing)  
Fall Semester ends  
December degree award date  
December Graduates Reception (School of Nursing)  
Final Exam Week (Pharmacy)  
Break (1st, 2nd yr Physical Therapy)  
Break (CHAP)  
Final grades due (by noon)  
Break (Dental, Dental Hygiene)  
Fall Semester ends (Pharmacy)  
Break (4th Yr Pharmacy)  
Final Grades Due (Pharmacy) noon

Fall 2007

June 25-July 20  
July 9-20  
Friday, July 6  
Monday, July 9  
August 17-27  
Friday, July 13  
July 23-August 3  
Monday, July 30  
Monday, July 30  
Monday, Aug 6  
August 14-17  
Monday, August 20  
Monday, August 20  
Wednesday, Aug 22  
August 22-23  
Friday, August 24  
Friday, August 24  
Monday, August 27  
August 27-Sept 7  
Aug 27 -Nov 16  
Monday, Sept 3  
Friday, September 7  
Wednesday, Sept 19  
September 20-23  
Sept 24–Jan 11, 2008  
Monday, October 1  
Monday, October 1  
October 15-19  
Friday, October 19  
Monday, October 22  
Monday, November 12  
Nov 19-February 22  
Wednesday, Nov 21  
Thursday, November 22  
November 22-23  
Friday, November 30  
Friday, December 7  
December 10-14  
December 10-14  
Friday, December 14  
Friday, December 14  
December 14, 17-20  
December 15-January 6  
December 17-January 1  
Wednesday, Dec 19  
December 20-January 1  
Friday, December 21  
December 24-Jan 4  
Wednesday, Dec 26
Spring 2008

Pre-registration School of Nursing (continuing students) Spring 2008  November 12-30
Registration: Basic Sciences for Spring 2008  Monday, December 10
Registration: CHAPA Program for Spring 2008  Monday, December 10
Registration: Dental/Dental Hygiene Spring 2008  Monday, December 10
Registration: Physical Therapy Spring 2008  Monday, December 10
Registration: Pharmacy Spring 2008  Monday, December 10
Pre-registration School of Nursing (new students) Spring 2008  December 11-29
Drop/add for Early Start begins (School of Nursing)  Wed, Dec 26-Jan 4
Early Start (School Nursing selected classes)  Wednesday, January 2
Early Start (Dental/Dental Hygiene)  Wednesday, January 2
Early Start (1st, 3rd yr Physical Therapy)  Monday, January 7
Early Start (2nd yr Physical Therapy)  Monday, January 7
Clinical Affiliation I (1st yr Physical Therapy)  January 7-February 1
Last day to drop/add for Early Start beginning Jan. 2  Friday, January 11
Early Start (Pharmacy 1,2,3 Yrs)  Tuesday, January 22
Break (3rd yr Physical Therapy) travel to CE IV  January 14-18
Martin Luther King, Jr. (classes not in session)  Monday, January 21
Martin Luther King Jr. (2nd, 3rd yr Physical Therapy holiday at discretion of Clinical Site)
Clinical Affiliation IV (1st, 3rd yr Physical Therapy)  January 21-May 7
Block I begins (School of Nursing)  Tuesday, January 22
Traditional Spring Semester begins  Tuesday, January 22
Semester begins (1st,2nd, 3rd yr Pharmacy)  Tuesday, January 22
Ph.D. Intensive Courses School of Nursing (students check course schedule for intensive dates for specific courses)  January 28-February 8
Last day to drop/add for traditional semester  Friday, February 1
Classes begin (1st yr Physical Therapy)  Monday, February 4
Diploma cards due for August graduates  Friday, February 8
Presidents Day (classes not in session)  Monday, February 18
Last day to submit Application for Graduation May 2008 (Grad School)  Monday, March 3
Rotation 3: Basic Sciences  February 25-May 16
Block I exam period (School of Nursing)  March 10-14
Block I ends (School of Nursing)  Friday, March 14
Spring Break (CHAPA,BasicSciences,Nursing,Pharmacy,Dental/Dental Hygiene)  March 17-21
Block II begins (School of Nursing)  Monday, March 24
Final exams (2nd yr Physical Therapy)  March 24-26
Break (2nd yr Physical Therapy) travel to CE II  March 27-30
Clinical Education Affiliation II (2nd yr Physical Therapy)  March 31-May 23
Last day for PhD Dissertation defense to walk in spring commencement  Tuesday, April 1
Pre-registration School of Nursing (continuing students) Summer 2008  April 7-April 25
Last day to take final exam/thesis defense for May 2008 MS&PhD grads  Friday, May 2
Final Awards Convocation (Pharmacy)  Friday, May 2
Pre-registration School of Nursing (new students) Summer 2008  May 5-May 23
Travel from CE IV to campus (3rd yr Physical Therapy)  May 8-11
Last day to submit thesis (Graduate School)  Friday, May 9
Final exams (Pharmacy)  May 13-16
Final Exam Week  May 12-16
Block II exam period (School of Nursing)  May 12-16
Presentation Seminars (3rd yr Physical Therapy)  May 12-22
Traditional Spring Semester ends  Friday, May 16
Final grades due (3rd yr Physical Therapy)  Friday, May 16
Board Review (4th yr Pharmacy )  May 17-19
Break (1st yr Physical Therapy)  May 17-June 1
Final grades due (by noon) CHAPA, Basic Sciences, Nursing, 1st, 2nd yr Physical Therapy, Dental/Dental Hygiene

CHAP Convocation
Commencement Banquet (Pharmacy)
Spring Semester ends (3rd yr Physical Therapy)
Graduate School Convocation
Nursing Convocation
Spring Semester ends (2nd yr Physical Therapy)

**ANNUAL COMMENCEMENT**

Break (2nd year Physical Therapy)

4/24/07
### FALL SEMESTER 2007

<table>
<thead>
<tr>
<th>Date Range</th>
<th>Event Description</th>
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</thead>
<tbody>
<tr>
<td>August 6 – August 10</td>
<td>Phase I Orientation</td>
</tr>
<tr>
<td>August 13</td>
<td>Fall Semester Begins</td>
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<tr>
<td>August 13 – August 24</td>
<td>Add/Drop Period</td>
</tr>
<tr>
<td>September 3</td>
<td>Holiday, Labor Day</td>
</tr>
<tr>
<td>November 22 and 23</td>
<td>Holiday, Thanksgiving</td>
</tr>
<tr>
<td>November 26 – November 30</td>
<td>Pre-registration spring semester electives</td>
</tr>
<tr>
<td>December 14</td>
<td>Fall Semester Ends</td>
</tr>
<tr>
<td>December 15 – January 1, 2008</td>
<td>Winter Break</td>
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### SPRING SEMESTER 2008

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>January 2</td>
<td>Spring Semester Begins</td>
</tr>
<tr>
<td>January 2 – January 11</td>
<td>Add/Drop Period</td>
</tr>
<tr>
<td>January 21</td>
<td>Holiday Martin Luther King</td>
</tr>
<tr>
<td>February 18</td>
<td>Holiday, President's Day</td>
</tr>
<tr>
<td>March 10 – March 14</td>
<td>Spring Break</td>
</tr>
<tr>
<td>May 23rd</td>
<td>HSC 2008 Commencement – NO CLASSES</td>
</tr>
<tr>
<td>May 26</td>
<td>Holiday, Memorial Day</td>
</tr>
<tr>
<td>May 30th</td>
<td>Spring Semester Ends</td>
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<tr>
<td>FALL SEMESTER 2007</td>
<td>(Class of 2010 - PHASE II)</td>
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</tr>
<tr>
<td>August 13</td>
<td>Fall Semester Begins</td>
</tr>
<tr>
<td>August 13 – August 24</td>
<td>Add/Drop Period</td>
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<tr>
<td>September 3</td>
<td>Holiday, Labor Day</td>
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<tr>
<td>November 22 and 23</td>
<td>Holiday, Thanksgiving</td>
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<td>November 26 – November 30</td>
<td>Pre-registration spring semester electives</td>
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<tr>
<td>December 14</td>
<td>Fall Semester Ends</td>
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<tr>
<td>December 15 – January 1, 2008</td>
<td>Winter Break</td>
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<thead>
<tr>
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<th>(Class of 2010 - PHASE II)</th>
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<tbody>
<tr>
<td>January 2</td>
<td>Spring Semester Begins</td>
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<tr>
<td>January 2 – January 11</td>
<td>Add/Drop Period</td>
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<tr>
<td>January 21</td>
<td>Holiday Martin Luther King</td>
</tr>
<tr>
<td>February 18</td>
<td>Holiday, President's Day</td>
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<tr>
<td>March 7th</td>
<td>Spring Semester ends</td>
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</tbody>
</table>
SPRING SEMESTER 2007 – CLASS OF 2009 (Phase III begins in spring semester of 2007)

<table>
<thead>
<tr>
<th>Section</th>
<th>April 9 – April 13</th>
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</thead>
<tbody>
<tr>
<td>0</td>
<td>IDPT 7001, ICC I, Required</td>
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</tbody>
</table>

**BLOCK 1**

| 1 | April 16 – April 20 |
| 2 | April 23 – April 27 |
| 3 | April 30 – May 4 |
| 4 | May 7 – May 11 |
| 5 | May 14 – May 18 |
| 6 | May 21 – May 25 |
| 7 | May 29 – June 1 |
| 8 | June 4 – June 8 |

**SUMMER SEMESTER 2007 – CLASS OF 2009 PHASE III**

| 9 | June 11 – June 15 |
| 10 | June 18 – June 22 |
| 11 | June 25 – June 29 |
| 12 | July 2 – July 6 |
| 13 | July 9 – July 13 |
| 14 | July 16 – July 20 |
| 15 | July 23 – July 27 |
| 16 | July 30 – August 3 |
| 17 | August 6 – August 10 |

Required Course, * IDPT 7002, Integrated Clinicians Course #2, will be held on Monday, Tuesday and Wednesday only (August 6, 7 and 8). Students will be off Thursday and Friday (August 9 and 10).

FALL SEMESTER 2007 – CLASS OF 2009 PHASE III

| 18 | August 13 – August 17 |
| 19 | August 20 – August 24 |
| 20 | August 27 – August 31 |
| 21 | September 4 – September 7 |
| 22 | September 10 – September 14 |
| 23 | September 17 – September 21 |
| 24 | September 24 – September 28 |
| 25 | October 1 – October 5 |

**BLOCK 4**

| 26 | October 8 – October 12 |
| 27 | October 15 – October 19 |
| 28 | October 22 – October 26 |
| 29 | October 29 – November 2 |
| 30 | November 5 – November 9 |
| 31 | November 12 – November 16 |
| 32 | November 19 – November 23 |
| 33 | November 26 – November 30 |
| 34 | December 3 – December 7 |
| 35 | December 10 – December 14 |
| 36 | December 15 – January 1, 2008 |

Required, * IDPT 7003, Integrated Clinicians, Course, 3 - two-wk course, sections 34 & 35. Winter Break

SPRING SEMESTER 2008 – CLASS OF 2009 PHASE III

| 36 | January 2 – January 4 |
| 37 | January 7 – January 11 |
| 38 | January 14 – January 18 |
| 39 | January 22 – January 25 |
| 40 | January 28 – February 1 |
| 41 | February 4 – February 8 |
| 42 | February 11 – February 15 |
| 43 | February 19 – February 22 |

Required, * IDPT 7004, Integrated Clinicians Course 4, one week in length, will be offered in either section 52 or 53. Students taking the course in section 52 will have a one week spring break in section 53. Students taking the course in section 53 will have spring break in section 52. The Spring break will be randomly assigned.
SPRING SEMESTER 2007 – CLASS OF 2008 (Phase IV begins in spring of 2007)

Section
1  May 7 – May 11
2  May 14 – May 18
3  May 21 – May 25
4  May 29 – June 1
   Holiday, Monday, May 28 Memorial Day

HSC 2007 Commencement, May 25th

SUMMER SEMESTER 2007 – CLASS OF 2008 PHASE IV

Section
5  June 4 – June 8
6  June 11 – June 15
7  June 18 – June 22
8  June 25 – June 29
9  July 2 – July 6
   Holiday, Wednesday, July 4th
10  July 9 – July 13
11  July 16 – July 20
12  July 23 – July 27
13  July 30 – August 3
14  August 6 – August 10
15  August 13 – August 17
16  August 20 – August 24

FALL SEMESTER 2007 – CLASS OF 2008 PHASE IV

17  August 27 – August 31
18  September 4 – September 7
   Holiday, Monday, Sept 3rd Labor Day
19  September 10 – September 14
20  September 17 – September 21
21  September 24 – September 28
22  October 1 – October 5
23  October 8 – October 12
24  October 15 – October 19
25  October 22 – October 26
26  October 29 – November 2
27  November 5 – November 9
28  November 12 – November 16
29  November 19 – November 21
   Holiday, Nov 22 & 23, Thanksgiving
30  November 26 – November 30
31  December 3 – December 7
32  December 10 – December 14
   December 15 – January 1, 2008  Winter Break

SPRING SEMESTER 2008 – CLASS OF 2008 PHASE IV

33  January 2 – January 4
   Holiday, Dec 31 and Jan 1st
34  January 7 – January 11
35  January 14 – January 18
36  January 22 – January 25
   Holiday, Monday, Jan 21st MLK Day
37  January 28 – February 1
38  February 4 – February 8
39  February 11 – February 15
40  February 19 – February 22
   Holiday, Monday, Feb 18, President’s Day
41  February 25 – February 29
   IDPT 8005, Integrated Clinicians Course 5,
42  March 3 – March 7
   a two-wk required course
43  March 10 – March 14
   3/13th, Match Day – 3/14, Career Day
44  March 17 – March 21
45  March 24 – March 28
46  March 31 – April 4
47  April 7 – April 11
48  April 14 – April 18
49  April 21 – April 25
50  April 28 – May 2
51  May 5 – May 9
   IDPT 8006, Integrated Clinicians Course 6,
52  May 12 – May 16
   a two-wk required course
53  May 19 – May 23
   HSC 2008 Commencement, May 23rd

IMPORTANT – sections 41, 42, 51 and 52 are reserved for the School of Medicine Integrated Clinicians Courses. Phase IV electives cannot be scheduled during these sections.
UNIVERSITY OF COLORADO AT DENVER
AND HEALTH SCIENCES CENTER

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. The University of Colorado at Denver and Health Sciences Center is currently located on three separate campuses in Downtown Denver, at 9th Ave. 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 UCDHSC 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 at Denver and Health Sciences Center, either express 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 at Denver and Health Sciences Center. 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 at Denver and Health Sciences Center 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 UCDHSC complies 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 at Denver and Health Sciences Center 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 UCDHSC 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 (Health Sciences Campuses), 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 referrals. Students at the Health Sciences Campuses may contact the counseling network at 303-315-8159 or 720-848-9094, or their respective 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

UCDHSC official functions that include the serving of alcohol require the completion of an “Authorization for an Official Function with Alcohol” 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 UCDHSC 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 other allied health professions.

The Alumni Relations office maintains records of alumni; arranges alumni events throughout the U.S.; coordinates alumni boards’ meetings and activities; sponsors annual meetings, class and school reunions, and student/alumni programs; and works 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 Health Sciences Campuses.

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.

ANSCHUTZ MEDICAL CAMPUS

All Health Sciences Campuses programs, students, faculty, and staff are scheduled to be relocated to the new Anschutz Medical Campus by the beginning of Spring semester 2008. For detailed information about the new campus see the website: http://www.uchsc.edu/fitzsimons/.

AUDITING

A student may not audit courses at the Health Sciences Campuses. 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, 9th & Colorado Campus (SOM 1801). Students must indicate no credit registration at the time of registration or during the drop/add period. (Please see “No Credit Enrollment”).
BOOKSTORE

The campus bookstore is located adjacent to the library. Normal business hours are:

- Monday 7:30 a.m. to 6 p.m.
- Tuesday through Thursday 7:30 a.m. to 5 p.m.
- Friday 7:30 a.m. to 4 p.m.
- Closed Saturday and Sunday

Check for extended and Saturday hours at the beginning of each new term. For online courses, please call the book desk at 303-315-5725 and we will be happy to ship your books to you.

The Bookstore has a wide variety of health sciences titles in stock. We can also special order any title. Name brand diagnostic sets, BP cuffs, stethoscopes, lab coats and scrubs are in stock at reasonable prices.

Additionally, we have a variety of CU emblematic goods and other novelty gift items. There is a small café that serves fresh-brewed coffee and espresso drinks as well as breakfast and lunch. The café is open Monday through Friday 7:30 a.m. to 4 p.m.

You can reach the Bookstore at 303-315-5735 or toll free at 1-800-591-2884. The Fax number is 303-315-5742 and the website is www.uchsc.edu/bookstore.

CANCELED CLASSES

Courses listed in this publication are those currently offered by the schools and programs at the Health Sciences Campuses (HSC). The HSC reserves 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.

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 Health Sciences Campus this will pertain to resident students in the Bachelor of Science Nursing and Dental Hygiene programs. 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 School of Nursing at 303-315-4313. Dental Hygiene students should contact the School of Dentistry, Office of Academic Affairs at 303-724-7115.

The state, as it has in the past, will continue to provide state tax dollar support for all other resident students at the Health Sciences Campuses. There will be no financial impact on resident students who are not eligible for COF.

CONCURRENT REGISTRATION

A student may enroll for 2 courses or 6 semester hours (whichever is greater) on another CU Campus with the approval of the student's academic dean or designee. 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, 9th & Colorado Campus (SOM 1801), 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 303-315-7676.

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/student/diplapp.php.

- December 2007 graduates: Diploma card due June 8, 2007
- May 2008 graduates: Diploma card due December 7, 2007
- August 2008 graduates: Diploma card due February 8, 2008

Diplomas will be awarded to approved candidates for degrees at the Annual Commencement Ceremonies for students at the Health Sciences Campuses or after official degree awarding dates as approved by the Board of Regents. There is a $15 fee for mailing diplomas.

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., 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 at Denver or the Health Sciences Center. 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.

For assistance and/or information, please contact our office located at Room 0404, School of Medicine Building at Voice: (303) 315-0193 or TDD: (303) 556-8484.

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..............................................................303-315-7143

Classroom and Teaching Lab Support
  Classroom & Audiovisual Services........................................303-315-7342
  Teaching Lab Coordination..................................................303-315-7528

Video, Multimedia and Engineering Services
  Media Production...............................................................303-315-6403
  Distributed Education/Teleconferencing.................................303-315-5200
  Video Engineering............................................................303-315-5200
  Test/Evaluation Processing Center.........................................303-315-5224
  ESS Computer Services.....................................................303-315-3317

Educational Teaching Lab
  Self-Service Faculty Production Facility...............................303-315-6403

E-MAIL 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 e-mail 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/student. Click on “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 E-mail Coordinator, Mary Mauck, 303-315-0388 or by email atmailto: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://denison.uchsc.edu/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, date and place of birth, dates of attendance, registration status, class, major field of study, awards, honors, degree(s) conferred, past and present participation in officially recognized sports and activities.
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, 9th & Colorado Campus (SOM 1801). 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.

**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 [here](http://www.uchsc.edu/finaid).

**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](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 at Denver and Health Sciences Center because of 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 at Denver and Health Sciences Center (UCDHSC) Financial Aid Office, which is located in the Office Annex Building, 2nd floor; Campus Box A-088; telephone 303-315-8364; fax number 303-315-3350; web site [www.uchsc.edu/finaid](http://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](http://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](http://www.fafsa.ed.gov)), as soon as possible after January 1st of the year you plan to start to attend. Wait until you are accepted and then submit the University application (this application is also available on our web site). Print and fax the application with a copy of your 2006 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 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 need is defined as the difference between the cost of attendance as defined by federal regulations and institutional policies (tuition, fees, books and supplies, room and board, transportation) and total family resources available to the student. The primary responsibility for financing post-secondary education rests with the students and their families. It is important to
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 Federal Stafford Student Loans in the 2007 – 2008 academic year will be required to complete a Master Promissory Note (MPN). Entrance Interviews will also be required of all UCDHSC first time borrowers of Federal Stafford Loans. Both these requirements should be completed on-line. Go to www.uchsc.edu/finaid and click on “MPN”. This will link you directly to an electronic form that will satisfy both requirements. New students who accept Parent PLUS or Graduate PLUS loans will need to complete a Master Promissory Note and a credit evaluation. Please go to our website and click on the appropriate Promissory Note for additional information. Continuing students will have already met these requirements; however, parents and students who will accept PLUS loans should know that there will be a credit evaluation if the results of a previous evaluation exceed 90 days.

All students who receive Federal Education Loans and Health Professions Loans are required by federal regulations to complete exit interviews prior to withdrawing from federal Title IV loans. Exit interviews for Federal Stafford and Plus loans are available through our web site. For information on all other loans, students should contact Linda Martinez in the Debt Management Office at 303-556-8365.

Satisfactory Academic Progress Policy

* Requirements for Financial Aid
To maintain eligibility for financial aid at UCDHSC, you must make reasonable academic progress toward your degree. Federal law and regulations governing Title IV student financial aid programs and state 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 PLUS Loans, and Federal Perkins Loans. Exit interviews for Federal Stafford and Plus loans are available through our web site. For information on all other loans, students should contact Linda Martinez in the Debt Management Office at 303-556-8365.

* 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 UCDHSC 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 attempted 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 at 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 UCDHSC School or program and are not applied towards the student's degree at UCDHSC. 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 UCDHSC, 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 has 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 Health Sciences Campuses web page at www.uchsc.edu. Click on the “student” link. Under the “Registrar’s Office” heading, click “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 UCDHSC 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:

- A 4.0 grade points per credit hour
- A- 3.7 grade points per credit hour
- B+ 3.3 grade points per credit hour
- B 3.0 grade points per credit hour
- B- 2.7 grade points per credit hour
- C+ 2.3 grade points per credit hour
- C 2.0 grade points per credit hour
- C- 1.7 grade points per credit hour
- D+ 1.3 grade points per credit hour
- D 1.0 grade points per credit hour
- D- 0.7 grade points per credit hour
- F 0.0 grade points per credit hour
- IF Automatic conversion after one academic year to F
- IW Automatic conversion after one academic year to W
- IP Coursework at the professional level; thesis, project, research rotations only at the graduate level
- H/P/F Credit hours count toward the degree, but are not included in the grade point average.
- NC Indicates registration on a no-credit basis
- W Indicates withdrawal without credit

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, Room 1D01 on the first floor of the Denison Auditorium building, 303-315-7928, or refer to our website at http://www.uchsc.edu/gs. In the spring of 2008 our office will be located in the Academic Office West building, on the second floor, L15-2609.

GRADUATION REQUIREMENTS
Students who expect to graduate during the academic year 2006-07 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 UCDHSC was developed in consultation with faculty and student representatives from each school at the Health Sciences Campuses, 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 UCDHSC 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 UCDHSC 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 either the 9th & Colorado or Anschutz Medical Campuses. However, the Student Assistance office maintains a listing of current vacancies in surrounding apartments, town homes, and houses online at www.uchsc.edu/studentassistance. Students need to print copies of the housing vacancies from the website, as hard copies are not available from the Student Assistance Office. While on the website, students may also list themselves as roommates with housing, or roommates without housing. The roommates’ lists are compiled and held off-line, and are available to UCDHSC students who attend classes at the Health Sciences Campuses, faculty, and staff who request this information.

IDENTIFICATION 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 wear 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 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 or prop open card-controlled doors or other secured doors for more than a few seconds as this will initiate alarms. 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 destroys its ability to provide access.

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.
**Using Badges for Card Access**

Card readers are located adjacent to card access-controlled doors. Card readers are rectangular or square gray panels which are approximately 1" in depth and 4" X 4" or 2" X 4" in height and width. To unlock a card-reader door, pass the badge slowly across the front of the card reader and 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 triggers a door strike unlock (you may hear a click as it unlocks). 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 manual door. Please report malfunctions to the Electronic Security Badging 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 Contact Information**

Phone: 303-724-0399  
Fax: 303-724-1352  
Locations:  
- Anschutz Medical Campus—Bldg T-407 (U09), Room 102; 9th Ave.  
- Colorado Campus—Office Annex Bldg, Room OC51F  
Email: IDAccess.Badges@UCHSC.edu  
Web: [http://www.uchsc.edu/police/IDHours.php](http://www.uchsc.edu/police/IDHours.php)

**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. Call 303-315-2230 for an appointment 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.

UCDHSC 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 UCDHSC. UCDHSC is also required by the Department of Homeland Security to report the immigration, registration, and demographic status of all international students and scholars on a regular basis. International students who are enrolled in a course of study at UCDHSC and international scholars who are visiting the campus must visit ISSS in person upon arrival at UCDHSC to check in. International students and 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 UCDHSC 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 UCDHSC, 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 Denison 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 303-315-7460 or visit [http://denison.uchsc.edu](http://denison.uchsc.edu) for general library information. The health sciences library, located on the UCDHSC 9th & Colorado Campus, is scheduled to move into a new building on the Anschutz Medical Campus in October 2007.

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://denison.uchsc.edu](http://denison.uchsc.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://denison.uchsc.edu/databases.html](http://denison.uchsc.edu/databases.html). 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. Denison cardholders are entitled to borrow materials through Prospector free of charge. Materials not available at Denison or through Prospector may be obtained through interlibrary loan for a fee.
- Tour the library via the Internet at http://denison.uchsc.edu/tour/

- 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 303-315-7469 or email us at Circ.Library@uchsc.edu.

- Free classes are listed at http://denison.uchsc.edu/classes.html; schedule library classes at alternative times by contacting library personnel.

- The Learning Resources Center (LRC) on the third floor of the library provides access to computers shared study space and closed study rooms.

- 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.

**E-MAIL and WEB ACCESS**

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 e-mail is accessible using any Internet account via Outlook Web Access. Students who do not know their PIN may obtain it at the Registrar's office, 9th & Colorado Campus (SOM 1801) - a picture ID is required to be able to release this information to the student. Students may contact the Student Email Coordinator, Mary Mauck, 303-315-0388 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://denison.uchsc.edu/help.

**MEDICAL MALPRACTICE COVERAGE**

The Health Sciences Campuses provide medical malpractice coverage 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 UCDHSC, 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 Legal office, 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.

**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 UCDHSC 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, UCDHSC, 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. UCDHSC procedures for investigating complaints of discrimination may be found online at:

http://www.uchsc.edu/admin/policies/hr/Discrimination%20Guideline%20-%20REVISED%20-%20READY%20FOR%20WEB.pdf

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, 9th & Colorado, School of Medicine, Room 1801, phone: (303) 315-7676 or e-mail at: Student.Services@UCHSC.edu.

OFFICE of DIVERSITY

The mission of the Office of Diversity is to promote and support a more diverse 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 UCDHSC 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 UCDHSC EMAC (Ethnic Minority Affairs Committee)
• Provide support for the UCDHSC GLBTQ+ 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 SOM 1665. The main office number is 303-315-8558.

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 UCDHSC.

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 UCDHSC 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 7005 in Building 500. The Downtown Denver 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 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 get a UCDHSC email account, to access the Records & Registration website, and in other applications. Since you will be notified of your PIN only once, you are encouraged to memorize this number. If you forget your PIN or wish to have it changed, please come in person to Student Admissions and Records, SOM 1801. A photo ID is required to have a new personal identification number assigned. The PIN may also be changed on the Student Records Web page (www.uchsc.edu). Follow the Student Resources link to the Records & Registration sign-on page. You may also retrieve your PIN number by going to the Health Sciences Campuses website at www.uchsc.edu/students; follow the student resource link to the records and registration student sign-on page. Click ‘sign-on’ and see the left margin for instructions on how to obtain your PIN.

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. seq. View online at http://198.187.128.12/colorado/lpext.dll?f=templates&fn=ls-main.html&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 Dentistry. 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 HSC 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 303-315-7677.

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 at Denver and Health Sciences Center -- are persons who, as of the date of their selection for admission into a UCDHSC professional health care program (currently students in the Schools of Medicine and Dentistry), 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 UCDHSC 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 (HSC) implemented this program for the Schools of Medicine and Dentistry 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 HSC Registrar’s Office (9th and Colorado campus, 1801 School of Medicine Building; telephone: 303-315-7676).

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 of 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.

   OR

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 (both front and back sides) 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 resident aliens 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 HSC student services web page [http://www.uchsc.edu/student](http://www.uchsc.edu/student) or from the Office of Student Admissions and Records, School of Medicine building room1801. 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 HSC Coursebook (available on the Web at [http://www.uchsc.edu/Registrar/coursebook](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 e-mail 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 (303-315-7676) 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 days of the 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, Office Annex 2C27.

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.

UCDHSC 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 UCDHSC 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. UCDHSC 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 UCDHSC 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 Anschutz Medical Center Campuses may be reached at 303-315-0563.

The UCDHSC 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.

UCDHSC 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 CU-Denver 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 UCDHSC 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.

School of Nursing courses: Please contact the Professional Development and Extended Studies office, 303-315-8691, for registration information.

Graduate Basic Sciences and Public Health courses: Application/registration forms are available on the web at [http://www.uchsc.edu/student](http://www.uchsc.edu/student) (click on Basic Science Non-degree Application). They may be submitted during the application/registration periods below in the Registrar’s office, 9th & Colorado Campus (SOM 1801).

<table>
<thead>
<tr>
<th>Semester</th>
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<tr>
<td>Summer Semester 2006</td>
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<tr>
<td>Fall Semester 2006</td>
<td>8/28/06 – 9/08/06</td>
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<tr>
<td>Spring Semester 2007</td>
<td>1/22/07 – 2/02/07</td>
</tr>
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</table>

**STUDENT ASSISTANCE OFFICE**

The Student Assistance Office (SAO) on the 9th & Colorado Campus provides specific services to support and complement students’ academic learning. The office website is [www.uchsc.edu/studentassistance](http://www.uchsc.edu/studentassistance).

The office provides current housing information, child care resources, general assistance, intramural sports coordination (flag football, softball, basketball, and volleyball), CU Buffalo football ticket sales (limited quantities available), counseling referral, learning assistance/tutoring services, student governance (Student Senate) advising, community service coordination, notary public service, FAX service, and more. The SAO is located on the 9th & Colorado Campus, next to lounges which offer comfortable study and meeting places, pool table, foosball, Ping Pong, television, and a kitchenette with microwaves. All rooms are strictly for students and have combination locks. Visit the SAO for further information. 303-315-7627. First floor, Office Annex South.

**STUDENT GOVERNMENT**

The UCDHSC Student Senate is the student governing body for the Health Sciences Campuses. 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 Dentistry, School 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 5:45 p.m. The meetings alternate between the 9th/Colorado campus and the Anschutz Medical Campus. 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 Campuses. 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 UCDHSC campus-wide policy is very real.

The Senate has student representatives on a number of campus committees such as Welcome Weekend Committee, Chancellor’s Campus Life Committee, the Chancellor’s Executive 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, first floor, Office Annex South. 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 UCDHSC, HSC student insurance unless the student can prove that he/she has comparable insurance coverage elsewhere. For detailed information about Health Sciences Campuses insurance plan, including outpatient, in-patient, and dental, see the website at www.uchsc.edu/studentinsurance, or contact the Student Insurance office at 303-315-0800. The waiver form (mailed to each student and 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 the Office Annex Building, south wing room 1C37. The deadline for waiving or enrolling in insurance is June 15, 2007, for the summer term and September 7, 2007, 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 303-315-0800.

**TRANSCRIPTS**

Students may print unofficial transcripts from the Health Sciences Campuses website (www.uchsc.edu, click on Students, then to Student Admissions & Records. Click on the Registration & Registration link to the student sign-on page). Official transcripts may be ordered from the website or by completing the transcript request form in the Registrar’s office, 9th & Colorado Campus (SOM 1801). Transcripts may also be ordered by mail (Registrar’s Office, 4200 E. 9th Ave., Box A054, Denver, CO 80262).

Requests should include the following:

1. Student’s full name (include maiden or other name if applicable)
2. Student ID number
3. Birth date
4. The last term and campus where the student was in attendance
5. Whether the transcript should be held for end of term grades
6. Agency, college, or individuals to whom transcripts are to be sent. Complete mailing addresses are required.

Transcripts sent to students are labeled “issued to student”.

7. Student signature. This is the student’s authorization to release the records to the designee.

There is no charge for transcripts. A student having any financial obligations to the University that are due and unpaid will not be issued a transcript. Copies of transcripts from other institutions cannot be furnished.

**TUITION DEPOSIT**

A deposit of $200 is required of each student entering a school or program at the UCDHSC Health Sciences Campuses 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 UCDHSC. 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 Health Sciences Campuses, 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 UCDHSC 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 and is not attending UCDHSC, 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 and is not attending UCDHSC, 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 in the deposit, the deposit will be refunded to the respective school. For students who fall into categories b or c, 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 UCDHSC 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 UCDHSC 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, 9th & Colorado Campus (SOM 1801) 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 their 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 UCDHSC Health Sciences Campuses. This fee will be assessed at the time of initial registration.

Payment of Tuition and Fees
Students enrolling at UCDHSC 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 the first day of class.

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 UCDHSC Health Sciences Campuses’ Bursar’s office does not accept credit cards for the payment of tuition and fees, 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 1.5% 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 bill due date, and on the last day of 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 1.5 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 $20.00 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 nonrefundable.

The deans or their designees of the various schools at the Health Sciences Campuses 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 UCDHSC Financial Aid bulletin on Withdrawing and Financial Aid. This bulletin is available in the student Financial Aid office, located in the Office Annex, 2C10.

**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, 9th & Colorado Campus (SOM1801). 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.
UNIVERSITY POLICE

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:
X4-4444 (303-724-4444) for service requests
X4-2000(303-724-2000) 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. Information may also be viewed at the University Police website www.UCHSC.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

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 e-mailed 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, 9th & Colorado Campus (SOM 1801) 303-315-7676 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, 9th & Colorado Bookstore, Denison 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.
The Dental Hygiene curriculum is subject to change without notice.

**FIRST YEAR, Fall Semester**

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<tr>
<th>Course Code</th>
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<th>Credits</th>
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<tbody>
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<tr>
<td>DHBS 3318</td>
<td>Anatomy</td>
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<td>DHBS 3324</td>
<td>Immunology, Microbiology, and Molecular Biology</td>
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<td>DHDD 3308</td>
<td>Oral Radiology</td>
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<td>DHRE 3300</td>
<td>Dental Morphology</td>
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<td>DHSD 3300</td>
<td>Periodontics 1 Lecture</td>
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<td>DHYG 3308</td>
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<td>DHYG 3319</td>
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**FIRST YEAR, Spring Semester**

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<td>DHBS 3316</td>
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<td>DHBS 3328</td>
<td>Biochemistry and Nutrition</td>
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<td>DHSD 3302</td>
<td>Periodontics 2 Lecture</td>
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<td>DHYG 3313</td>
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<td>Course Name</td>
<td>Credits</td>
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<tr>
<td>DHYG 3318</td>
<td>Dental Hygiene Clinical Science Lecture 2</td>
<td>4.0 cr.</td>
</tr>
<tr>
<td>DHYG 3321</td>
<td>Pre-Clinical Dental Hygiene Laboratory 2</td>
<td>1.0 cr.</td>
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<tr>
<td>DHYG 4400</td>
<td>Dental Hygiene Clinical Science Lecture 3</td>
<td>2.0 cr.</td>
</tr>
<tr>
<td>DHYG 4401</td>
<td>Dental Hygiene Patient Care Clinic 2</td>
<td>2.0 cr.</td>
</tr>
<tr>
<td>DHYG 4416</td>
<td>Pain Control</td>
<td>2.0 cr.</td>
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<tr>
<td>DHAD 4430</td>
<td>Oral Management of Patients with Systemic Disorder</td>
<td>2.0 cr.</td>
</tr>
<tr>
<td>DHAD 4432</td>
<td>Community Health Programs and Issues</td>
<td>2.5 cr.</td>
</tr>
<tr>
<td>DHRE 4400</td>
<td>Dental Materials Science</td>
<td>2.0 cr.</td>
</tr>
<tr>
<td>DHYG 4403</td>
<td>Dental Hygiene Patient Care Clinic 3</td>
<td>3.0 cr.</td>
</tr>
<tr>
<td>DHYG 4408</td>
<td>Dental Hygiene Clinical Science Lecture 4</td>
<td>2.0 cr.</td>
</tr>
<tr>
<td>DHYG 4411</td>
<td>Medical Emergencies</td>
<td>1.0 cr.</td>
</tr>
<tr>
<td>DHYG 4417</td>
<td>Extramural Externship 1</td>
<td>1.0 cr.</td>
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<tr>
<td>DHAD 4428</td>
<td>Practice Management for the Dental Team</td>
<td>2.0 cr.</td>
</tr>
<tr>
<td>DHYG 4404</td>
<td>Dental Hygiene Patient Care Clinic 4</td>
<td>4.0 cr.</td>
</tr>
</tbody>
</table>
**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.

**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.

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

<table>
<thead>
<tr>
<th>FIRST YEAR, Fall Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DSAD 5522  Professional Decision Making in Dentistry</strong></td>
</tr>
<tr>
<td>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.</td>
</tr>
<tr>
<td><strong>DSAD 5855  Independent Study</strong></td>
</tr>
<tr>
<td><strong>DSBS 5500  Biochemistry and Human Nutrition</strong></td>
</tr>
<tr>
<td>Deals with the chemical basis of biological organization and function. Emphasis is given to topics most directly relevant to oral health and disease.</td>
</tr>
<tr>
<td><strong>DSBS 5504  Human Anatomy</strong></td>
</tr>
<tr>
<td>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.</td>
</tr>
<tr>
<td><strong>DSRE 5001  Introduction to Dentistry</strong></td>
</tr>
<tr>
<td>To introduce the beginning dental students to the program with an overview of dental concepts and procedures.</td>
</tr>
<tr>
<td><strong>DSRE 5500  Dental Morphology</strong></td>
</tr>
<tr>
<td>Anatomical characteristics of the primary and permanent teeth in the human dentition, intra-arch relationships are considered in detail.</td>
</tr>
<tr>
<td><strong>DSRE 5501  Dental Morphology Laboratory</strong></td>
</tr>
<tr>
<td>Waxing full crowns of each tooth type to correct anatomical form, emphasizing intra-arch relationships.</td>
</tr>
<tr>
<td><strong>DSRE 5504  Dental Materials Science 1</strong></td>
</tr>
<tr>
<td>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.</td>
</tr>
</tbody>
</table>

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<thead>
<tr>
<th>FIRST YEAR, Spring Semester</th>
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<tbody>
<tr>
<td><strong>DSAD 5866  Independent Study</strong></td>
</tr>
<tr>
<td><strong>DSBS 5503  Microbiology</strong></td>
</tr>
<tr>
<td>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.</td>
</tr>
<tr>
<td><strong>DSBS 5505  Immunology</strong></td>
</tr>
<tr>
<td>Basic Information about the immune system; how it functions in the maintenance of health and how it can cause tissue injury.</td>
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<td>Course Code</td>
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<tr>
<td>DSBS 5508</td>
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<tr>
<td>DSBS 5514</td>
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<td>DSDD 5500</td>
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<td>DSRE 5507</td>
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<td>DSRE 5544</td>
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**FIRST YEAR, Summer Semester**

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<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></td>
<td>This course, consisting of lectures and laboratory conferences, is designed to assist the student in learning the etiology, pathogenesis, and the changes in structure and function of specific disease entities on selected organ systems pertinent to the practice of dentistry.</td>
<td></td>
</tr>
<tr>
<td>DSOD 5500</td>
<td>Health Data Collection 1</td>
<td>0.5 cr.</td>
</tr>
<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>
<tr>
<td>DSOP 5506</td>
<td>Principles of Operative Dentistry Direct Restoration 2</td>
<td>0.6 cr.</td>
</tr>
<tr>
<td></td>
<td>Continuation of Principles of Operative Dentistry Direct Restoration 1. Designed to teach operative dentistry from a problem specific approach.</td>
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</tr>
<tr>
<td>DSOP 5507</td>
<td>Principles of Operative Dentistry Direct Restoration 2 Lab</td>
<td>0.6 cr.</td>
</tr>
<tr>
<td></td>
<td>Continuation of Principles of Operative Dentistry Direct Restoration 1 Lab. Designed to teach operative dentistry from a problem specific approach.</td>
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<tr>
<td>DSRE 5508</td>
<td>Indirect Single Tooth Restoration 1</td>
<td>0.6 cr.</td>
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<tr>
<td></td>
<td>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.</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>
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<tbody>
<tr>
<td>DSAD 6682</td>
<td>Clinical Practicum</td>
<td>0.8 cr.</td>
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<tr>
<td>DSAD 6855</td>
<td>Independent Study</td>
<td>Variable cr.</td>
</tr>
<tr>
<td>DSBS 6600</td>
<td>Pharmacology</td>
<td>5.1 cr.</td>
</tr>
<tr>
<td>DSFD 6606</td>
<td>Indirect Single Tooth Restoration 3</td>
<td>0.8 cr.</td>
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<tr>
<td>DSFD 6607</td>
<td>Indirect Single Tooth Restoration 3 Lab</td>
<td>0.8 cr.</td>
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<tr>
<td>DSON 6610</td>
<td>Oral Pathology 1</td>
<td>2.1 cr.</td>
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<tr>
<td>DSOT 6610</td>
<td>Orthodontics 1</td>
<td>2.1 cr.</td>
</tr>
<tr>
<td>DSOT 6612</td>
<td>Orthodontics 2</td>
<td>0.5 cr.</td>
</tr>
<tr>
<td>DSPE 6600</td>
<td>Periodontics 1</td>
<td>2.4 cr.</td>
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<tr>
<td>DSRE 6606</td>
<td>Indirect Single Tooth Restoration 2</td>
<td>0.8 cr.</td>
</tr>
<tr>
<td>DSRE 6607</td>
<td>Indirect Single Tooth Restoration 2 Laboratory</td>
<td>0.8 cr.</td>
</tr>
<tr>
<td>DSRP 6600</td>
<td>Removable Complete Prosthodontics</td>
<td>1.1 cr.</td>
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<tr>
<td>DSRP 6601</td>
<td>Removable Complete Prosthodontics Lab</td>
<td>0.8 cr.</td>
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</tbody>
</table>

### SECOND YEAR, Spring Semester

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<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>
</tbody>
</table>

This course introduces dental students to clinical activities centered on patient care.

This course provides student 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.
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.

This is a laboratory course in basic endodontics techniques utilizing extracted natural teeth as models of clinical treatment.

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.

This course is a continuation of Endodontics 1 Lab. This is a laboratory course in basic endodontics techniques utilizing extracted natural teeth as models of clinical treatment.

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.

This course is designed to introduce the students to basic radiology and to provide them with the necessary practical skills in preparation for clinical dentistry.

The laboratory is designed to provide students with the necessary practical skills in preparation for clinical dentistry.

This course is a continuation of Oral Pathology 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.

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.

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.

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.

Theory and indications treating mandibular instability with splints and equilibration. The etiology, diagnosis and treatment of occlusal trauma and mandibular dysfunction are introduced.

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.

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.

Acquaints the student with principles of removable partial prosthodontics. Includes principles of partial denture design and fabrication as they relate to preventive dentistry.

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  
Integration of basic drug mechanisms with fundamentals of clinical pharmacology and patient care.

DSSD 6604  Pain Control 1 (Local Anesthesia)  
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  
The prevention, diagnosis, and management of medical emergencies are presented.

SECOND YEAR, Summer Semester

DSAD 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.

DSAD 6877  Independent Study  
Variable cr.

DSAD 7713  Community Assessment  
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  
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.

DSFD 6655  Clinical Fixed Prosthodontics  
Clinical rotation in fixed prosthodontics.

DSFD 6655  Clinical Oral Diagnosis  
Clinical rotation in oral diagnosis.

DSOD 6657  Clinical Oral Radiology  
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  
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  
Clinical rotation in operative dentistry.

DSPD 6630  Pediatric Dentistry 2  
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  
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.

DSRP 6602  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.
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  Variable cr.
Clinical rotation in removable prosthodontics.

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.

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 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.

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

DSAD 7855  Independent Study  Variable cr.

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

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

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  Variable cr.
Clinical rotation in oral diagnosis.

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

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.
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<tr>
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<tbody>
<tr>
<td>DSPE 7755</td>
<td>Clinical Periodontics</td>
<td>Variable cr.</td>
</tr>
<tr>
<td>DSRE 7704</td>
<td>Esthetic Dentistry</td>
<td>1.4 cr.</td>
</tr>
<tr>
<td>DSRE 7712</td>
<td>Implant Dentistry</td>
<td>2.1 cr.</td>
</tr>
<tr>
<td>DSRE 7744</td>
<td>Cariology 3 – Section 1</td>
<td>0.5 cr.</td>
</tr>
<tr>
<td>DSRP 7755</td>
<td>Clinical Removable Prosthodontics</td>
<td>Variable cr.</td>
</tr>
<tr>
<td>DSSD 7710</td>
<td>OroFacial Pain</td>
<td>1.2 cr.</td>
</tr>
<tr>
<td>DSSD 7712</td>
<td>Dental Pain and Emergencies</td>
<td>0.8 cr.</td>
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**THIRD YEAR, Spring Semester**

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<tr>
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<tr>
<td>DSAD 7719</td>
<td>Comprehensive Patient Care Clinic C</td>
<td>3.0 cr.</td>
</tr>
<tr>
<td>DSAD 7726</td>
<td>Dental Practice Planning</td>
<td>2.2 cr.</td>
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<tr>
<td>DSAD 7866</td>
<td>Independent Study</td>
<td>Variable cr.</td>
</tr>
<tr>
<td>DSSD 7700</td>
<td>Medical Problems and Physical Assessment</td>
<td>0.7 cr.</td>
</tr>
<tr>
<td>DSSD 7702</td>
<td>Hospital Dentistry</td>
<td>0.6 cr.</td>
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<tr>
<td>DSEN 7712</td>
<td>Endodontics 3</td>
<td>0.9 cr.</td>
</tr>
<tr>
<td>DSEN 7757</td>
<td>Clinical Endodontics</td>
<td>Variable cr.</td>
</tr>
<tr>
<td>DSFD 7757</td>
<td>Clinical Fixed Prosthodontics</td>
<td>Variable cr.</td>
</tr>
<tr>
<td>DSOD 7720</td>
<td>Treatment Planning Conference 2</td>
<td>0.3 cr.</td>
</tr>
<tr>
<td>DSOD 7722</td>
<td>Treatment Planning Conference 3</td>
<td>0.2 cr.</td>
</tr>
</tbody>
</table>
### Diagnostic Radiology

- **DSOD 7724**  
  **Diagnostic Radiology**  
  0.5 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.

### Clinical Oral Diagnosis

- **DSOD 7757**  
  **Clinical Oral Diagnosis**  
  Variable cr.  
  Clinical rotation in oral diagnosis.

### Clinical Oncology

- **DSON 7755**  
  **Clinical Oncology**  
  0.3 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.

### Clinical Operative Dentistry

- **DSOP 7757**  
  **Clinical Operative Dentistry**  
  Variable cr.  
  Clinical rotation in operative dentistry.

### Clinical Removable Prosthodontics

- **DSRP 7757**  
  **Clinical Removable Prosthodontics**  
  Variable cr.  
  Clinical rotation in removable prosthodontics.

### Clinical Pediatric Dentistry

- **DSPD 7757**  
  **Clinical Pediatric Dentistry**  
  Variable cr.  
  Clinical rotation in pediatric dentistry.

### Clinical Periodontics

- **DSPE 7757**  
  **Clinical Periodontics**  
  Variable cr.  
  Clinical rotation in periodontics.

### Oral Diagnosis

- **DSOD 7759**  
  **Clinical Oral Diagnosis**  
  Variable cr.  
  Clinical rotation in oral diagnosis.

### Clinical Operative Dentistry

- **DSOP 7759**  
  **Clinical Operative Dentistry**  
  Variable cr.  
  Clinical rotation in operative dentistry.

### Clinical Orthodontics

- **DSOT 7757**  
  **Clinical Orthodontics**  
  Variable cr.  
  Clinical rotation in orthodontics.

### Clinical Pediatric Dentistry

- **DSPD 7759**  
  **Clinical Pediatric Dentistry**  
  Variable cr.  
  Clinical rotation in pediatric dentistry.

### Clinical Periodontics

- **DSPE 7759**  
  **Clinical Periodontics**  
  Variable cr.  
  Clinical rotation in periodontics.

### Cariology 3 – Section 2

- **DSRE 7844**  
  **Cariology 3 – Section 2**  
  0.5 cr.  
  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.

### Clinical Removable Prosthodontics 1

- **DSRP 7759**  
  **Clinical Removable Prosthodontics 1**  
  Clinical rotation in removable prosthodontics.
## FOURTH YEAR, Fall Semester

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>DSAD 8817</td>
<td>Comprehensive Patient Care Clinic E</td>
<td>0.6 cr.</td>
</tr>
<tr>
<td>DSAD 8895</td>
<td>Independent Study</td>
<td>Variable cr.</td>
</tr>
<tr>
<td>DSEN 8855</td>
<td>Clinical Endodontics</td>
<td>Variable cr.</td>
</tr>
<tr>
<td>DSFD 8855</td>
<td>Clinical Fixed Prosthodontics</td>
<td>Variable cr.</td>
</tr>
<tr>
<td>DSFD 8861</td>
<td>Clinical Fixed Prosthodontics Competency Examination</td>
<td>0.2 cr.</td>
</tr>
<tr>
<td>DSOD 8855</td>
<td>Clinical Oral Diagnosis</td>
<td>Variable cr.</td>
</tr>
<tr>
<td>DSOP 8855</td>
<td>Clinical Operative Dentistry</td>
<td>Variable cr.</td>
</tr>
<tr>
<td>DSOS 8855</td>
<td>Clinical Oral and Maxillofacial Surgery</td>
<td>2.5 cr.</td>
</tr>
<tr>
<td>DSPE 8810</td>
<td>Periodontics 4</td>
<td>0.6 cr.</td>
</tr>
<tr>
<td>DSPE 8855</td>
<td>Clinical Periodontics</td>
<td>Variable cr.</td>
</tr>
<tr>
<td>DSRE 8810</td>
<td>Restorative Dentistry Advanced Clinical Training Service Seminar</td>
<td>0.8 cr.</td>
</tr>
<tr>
<td>DSRP 8855</td>
<td>Clinical Removable Prosthodontics</td>
<td>Variable cr.</td>
</tr>
<tr>
<td>DSSD 8855</td>
<td>Clinical Emergencies</td>
<td>1.3 cr.</td>
</tr>
</tbody>
</table>

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.

## FOURTH YEAR, Spring Semester

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSAD 8812</td>
<td>Dental Ethics and Jurisprudence</td>
<td>0.9 cr.</td>
</tr>
<tr>
<td>DSAD 8822</td>
<td>Practice Management</td>
<td>1.8 cr.</td>
</tr>
<tr>
<td>DSAD 8827</td>
<td>Comprehensive Patient Care Clinic F</td>
<td>11.0 cr.</td>
</tr>
<tr>
<td>DSAD 8866</td>
<td>Independent Study</td>
<td>Variable cr.</td>
</tr>
<tr>
<td>DSAD 8885</td>
<td>Applied Dentistry Independent Study</td>
<td>Variable cr.</td>
</tr>
</tbody>
</table>
### Integrated Care Clinical Dentistry
3.1 cr.
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.

### Community-Based Clinical Dentistry 1
3.9 cr.
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.

### Community-Based Clinical Dentistry 2
3.9 cr.
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.

### Community-Based Clinical Dentistry 3
3.9 cr.
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.

### 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.

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

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

### Comprehensive Patient Care Clinic G
11.0 cr.
Continuation of advanced comprehensive patient care activities for DS 4 dental students not registered for Integrated Care Clinical Dentistry.

### Independent Study
Variable cr.

### Community Based Clinical Dentistry 4
5.0 cr.
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.

## FOURTH YEAR, Summer Semester (as needed)

### Comprehensive Patient Care Clinic H
11.0 cr.
Continuation of advanced comprehensive patient care activities for late DS IV dental students not registered for Integrated Care Dentistry.

## DENTAL INTERNATIONAL STUDENT PROGRAM
(*The Dental curriculum is subject to change without notice.*)

## FIRST YEAR, Spring Semester

### Restorative Preclinical Simulation
1.9 cr.
This seminar-based course introduces the student to an overview of contemporary restorative procedures in a simulated clinical environment.

### Restorative Preclinical Simulation Lab
0.7 cr.
This laboratory-based course provides students with an overview of restorative techniques in a simulated clinical environment.

### Occlusion
1.1 cr.
Course covering principles of intra and inter-oral relationships. Course will also cover diagnosis and treatment regarding the occlusion relationship.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Cr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DISP 7103</td>
<td>Occlusion Lab</td>
<td>0.9</td>
</tr>
<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>
<td></td>
</tr>
<tr>
<td>DISP 7105</td>
<td>Dental Materials</td>
<td>1.5</td>
</tr>
<tr>
<td></td>
<td>This course will highlight contemporary dental materials and address their chemical composition and clinical application.</td>
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</tr>
<tr>
<td>DISP 7106</td>
<td>Clinical Practice Ethics</td>
<td>0.6</td>
</tr>
<tr>
<td></td>
<td>Case-based ethics discussion.</td>
<td></td>
</tr>
<tr>
<td>DISP 7108</td>
<td>Cariology</td>
<td>0.9</td>
</tr>
<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>
<td></td>
</tr>
<tr>
<td>DISP 7112</td>
<td>Periodontics 2</td>
<td>1.9</td>
</tr>
<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>
<td></td>
</tr>
<tr>
<td>DISP 7123</td>
<td>Periodontics 2 Lab</td>
<td>1.8</td>
</tr>
<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>
<tr>
<td>DISP 7124</td>
<td>Clinical Dental Pharmacology</td>
<td>0.4</td>
</tr>
<tr>
<td></td>
<td>Integration of basic drug mechanisms with fundamentals of clinical pharmacology and patient care.</td>
<td></td>
</tr>
<tr>
<td>DISP 7125</td>
<td>Pain Control 1 (Local Anesthesia)</td>
<td>0.9</td>
</tr>
<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>
<td></td>
</tr>
<tr>
<td>DISP 7126</td>
<td>Prevention and Management of Medical Emergencies</td>
<td>1.4</td>
</tr>
<tr>
<td></td>
<td>The prevention, diagnosis, and management of medical emergencies are presented.</td>
<td></td>
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<tr>
<td>DISP 7127</td>
<td>Medical Problems and Physical Assessment</td>
<td>0.7</td>
</tr>
<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>
<td></td>
</tr>
<tr>
<td>DISP 7128</td>
<td>Hospital Dentistry</td>
<td>0.6</td>
</tr>
<tr>
<td></td>
<td>This course provides an introduction to the hospital environment and the dental treatment of patients within that environment.</td>
<td></td>
</tr>
<tr>
<td>DISP 7129</td>
<td>Infection Control</td>
<td>0.5</td>
</tr>
<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>
<td></td>
</tr>
<tr>
<td>DISP 7130</td>
<td>Oral Radiology</td>
<td>2.3</td>
</tr>
<tr>
<td></td>
<td>Designed to introduce the students to basic radiology and to provide them with the necessary practical skills in preparation for clinical dentistry.</td>
<td></td>
</tr>
<tr>
<td>DISP 7131</td>
<td>Oral Radiology Lab</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td>The laboratory is designed to provide students with the necessary practical skills in preparation for clinical dentistry.</td>
<td></td>
</tr>
<tr>
<td>DISP 7132</td>
<td>Diagnostic Radiology</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td>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.</td>
<td></td>
</tr>
<tr>
<td>DISP 7140</td>
<td>Pediatric Dentistry 1</td>
<td>2.5</td>
</tr>
<tr>
<td></td>
<td>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.</td>
<td></td>
</tr>
</tbody>
</table>
DISP 7160  Managing Your Student Practice  1.6 cr.
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  2.2 cr.
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 a practice, leases, debt management, personal/professional insurance, and selecting professional advisors.

DISP 7162  Public Health and Community Dentistry  1.6 cr.
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  1.4 cr.
Patient care with development of treatment plan through presentation by student to students and faculty.

DISP 7203  Fixed Prosthodontics  1.0 cr.
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  0.7 cr.
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  Variable cr.
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  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 7210  Endodontics 2  2.0 cr.
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  0.8 cr.
This is a laboratory course in basic endodontic techniques utilizing extracted natural teeth as models of clinical treatment.

DISP 7212  Removable Partial Prosthodontics  0.9 cr.
Acquaints the student with principles of removable partial prosthodontics. Includes principles of partial denture design and fabrication as they relate to preventive dentistry.

DISP 7213  Removable Partial Prosthodontics Laboratory  0.8 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.

DISP 7216  Operative Dentistry Seminar  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.

DISP 7220  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.

DISP 7221  Clinical Periodontics  Variable cr.
Clinical rotation in periodontics

DISP 7230  Clinical Oral Radiology  0.8 cr.
To provide students with experience in exposing radiographs and by completing written interpretations of all radiographs.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>DISP 7231</td>
<td>Health Data Collection 1</td>
<td>0.6 cr.</td>
</tr>
<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>
<tr>
<td>DISP 7232</td>
<td>Clinical Oral Diagnosis</td>
<td>Variable cr.</td>
</tr>
<tr>
<td></td>
<td>Clinical rotation in oral diagnosis.</td>
<td></td>
</tr>
<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 Title</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>
</tr>
<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>
</tr>
<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>
<td></td>
</tr>
<tr>
<td>DISP 7312</td>
<td>Removable Complete Prosthodontics</td>
<td>1.1 cr.</td>
</tr>
<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>
<td></td>
</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>
<td></td>
</tr>
<tr>
<td>DISP 7314</td>
<td>Esthetic Dentistry</td>
<td>1.4 cr.</td>
</tr>
<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>
<tr>
<td>DISP 7320</td>
<td>Oral and Maxillofacial Surgery</td>
<td>3.0 cr.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
<td></td>
</tr>
<tr>
<td>DISP 7321</td>
<td>Periodontics 3</td>
<td>0.8 cr.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
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</tr>
<tr>
<td>DISP 7322</td>
<td>Oral Facial Pain</td>
<td>1.2 cr.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
<td></td>
</tr>
<tr>
<td>DISP 7323</td>
<td>Dental Pain and Emergencies</td>
<td>0.8 cr.</td>
</tr>
<tr>
<td></td>
<td>This course covers the diagnostic and treatment considerations for the management of the patient in pain and other emergency problems encountered in general dentistry.</td>
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<tr>
<td>Course Code</td>
<td>Course Title</td>
<td>Credits</td>
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</tr>
<tr>
<td>DISP 7326</td>
<td>Treatment Planning Conference 1</td>
<td>0.9 cr.</td>
</tr>
<tr>
<td>DISP 7327</td>
<td>Periodontics 3 Laboratory</td>
<td>0.1 cr.</td>
</tr>
<tr>
<td>DISP 7328</td>
<td>Clinical Periodontics</td>
<td>Variable cr.</td>
</tr>
<tr>
<td>DISP 7329</td>
<td>Clinical Endodontics</td>
<td>Variable cr.</td>
</tr>
<tr>
<td>DISP 7330</td>
<td>Oral Pathology 1</td>
<td>2.1 cr.</td>
</tr>
<tr>
<td>DISP 7331</td>
<td>Clinical Oral Diagnosis</td>
<td>Variable cr.</td>
</tr>
<tr>
<td>DISP 7340</td>
<td>Pediatric Dentistry 3</td>
<td>0.6 cr.</td>
</tr>
<tr>
<td>DISP 7360</td>
<td>Behavioral, Geriatric, and Special Dentistry</td>
<td>2.6 cr.</td>
</tr>
<tr>
<td>DISP 8100</td>
<td>Case Presentation 4</td>
<td>2.0 cr.</td>
</tr>
<tr>
<td>DISP 8101</td>
<td>Comprehensive Patient Care Clinic C</td>
<td>Variable cr.</td>
</tr>
<tr>
<td>DISP 8102</td>
<td>Communication and Behavior Change</td>
<td>1.0 cr.</td>
</tr>
<tr>
<td>DISP 8103</td>
<td>Clinical Restorative</td>
<td>Variable cr.</td>
</tr>
<tr>
<td>DISP 8110</td>
<td>Restorative Dentistry Advanced Clinical Training Service Seminar</td>
<td>1.6 cr.</td>
</tr>
<tr>
<td>DISP 8120</td>
<td>Endodontics 3</td>
<td>0.9 cr.</td>
</tr>
<tr>
<td>DISP 8121</td>
<td>Endodontics 4</td>
<td>0.3 cr.</td>
</tr>
<tr>
<td>DISP 8123</td>
<td>Clinical Endodontics</td>
<td>Variable cr.</td>
</tr>
<tr>
<td>DISP 8124</td>
<td>Clinical Periodontics</td>
<td>Variable cr.</td>
</tr>
</tbody>
</table>

SECON D YEAR, Spring Semester

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>DISP 7326</td>
<td>Treatment Planning Conference 1</td>
<td>0.9 cr.</td>
</tr>
<tr>
<td>DISP 7327</td>
<td>Periodontics 3 Laboratory</td>
<td>0.1 cr.</td>
</tr>
<tr>
<td>DISP 7328</td>
<td>Clinical Periodontics</td>
<td>Variable cr.</td>
</tr>
<tr>
<td>DISP 7329</td>
<td>Clinical Endodontics</td>
<td>Variable cr.</td>
</tr>
<tr>
<td>DISP 7330</td>
<td>Oral Pathology 1</td>
<td>2.1 cr.</td>
</tr>
<tr>
<td>DISP 7331</td>
<td>Clinical Oral Diagnosis</td>
<td>Variable cr.</td>
</tr>
<tr>
<td>DISP 7340</td>
<td>Pediatric Dentistry 3</td>
<td>0.6 cr.</td>
</tr>
<tr>
<td>DISP 7360</td>
<td>Behavioral, Geriatric, and Special Dentistry</td>
<td>2.6 cr.</td>
</tr>
<tr>
<td>DISP 8100</td>
<td>Case Presentation 4</td>
<td>2.0 cr.</td>
</tr>
<tr>
<td>DISP 8101</td>
<td>Comprehensive Patient Care Clinic C</td>
<td>Variable cr.</td>
</tr>
<tr>
<td>DISP 8102</td>
<td>Communication and Behavior Change</td>
<td>1.0 cr.</td>
</tr>
<tr>
<td>DISP 8103</td>
<td>Clinical Restorative</td>
<td>Variable cr.</td>
</tr>
<tr>
<td>DISP 8110</td>
<td>Restorative Dentistry Advanced Clinical Training Service Seminar</td>
<td>1.6 cr.</td>
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<tr>
<td>DISP 8120</td>
<td>Endodontics 3</td>
<td>0.9 cr.</td>
</tr>
<tr>
<td>DISP 8121</td>
<td>Endodontics 4</td>
<td>0.3 cr.</td>
</tr>
<tr>
<td>DISP 8123</td>
<td>Clinical Endodontics</td>
<td>Variable cr.</td>
</tr>
<tr>
<td>DISP 8124</td>
<td>Clinical Periodontics</td>
<td>Variable cr.</td>
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<tr>
<td>Course Code</td>
<td>Course Title</td>
<td>Credits</td>
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<tr>
<td>DISP 8125</td>
<td>Clinical Oral Maxillofacial Surgery</td>
<td>2.5 cr.</td>
</tr>
<tr>
<td></td>
<td>This is a clinical oral surgery experience including routine and surgical removal of erupted and impacted teeth and use of intravenous sedation techniques.</td>
<td></td>
</tr>
<tr>
<td>DISP 8126</td>
<td>Treatment Planning Conference 2</td>
<td>0.9 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>
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</tr>
<tr>
<td>DISP 8130</td>
<td>Clinical Oncology</td>
<td>0.3 cr.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
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</tr>
<tr>
<td>DISP 8131</td>
<td>Oral Pathology 2</td>
<td>2.3 cr.</td>
</tr>
<tr>
<td></td>
<td>This course is a continuation of DISP 7330.</td>
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</tr>
<tr>
<td>DISP 8132</td>
<td>Forensic Dentistry</td>
<td>0.4 cr.</td>
</tr>
<tr>
<td></td>
<td>Introductory concepts and techniques in forensic dentistry are presented and discussed.</td>
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</tr>
<tr>
<td>DISP 8133</td>
<td>Clinical Oral Diagnosis</td>
<td>Variable cr.</td>
</tr>
<tr>
<td></td>
<td>Clinical rotation in oral diagnosis.</td>
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</tr>
<tr>
<td>DISP 8160</td>
<td>Dental Ethics and Jurisprudence</td>
<td>0.9 cr.</td>
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<tr>
<td></td>
<td>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.</td>
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</tr>
<tr>
<td>DISP 8161</td>
<td>Practice Management</td>
<td>1.8 cr.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
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</tbody>
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**SECOND YEAR, Summer Semester**

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>DISP 8200</td>
<td>Case Presentation 5</td>
<td>1.4 cr.</td>
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<tr>
<td></td>
<td>Patient care with development of treatment plan through presentation by student to students and faculty.</td>
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<tr>
<td>DISP 8201</td>
<td>Comprehensive Patient Care Clinic D</td>
<td>Variable cr.</td>
</tr>
<tr>
<td></td>
<td>Continued provision of Comprehensive Patient Care Clinic C with emphasis on effective practice management.</td>
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</tr>
<tr>
<td>DISP 8202</td>
<td>Clinical Restorative</td>
<td>Variable cr.</td>
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<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>
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</tr>
<tr>
<td>DISP 8203</td>
<td>Special Care Clinic</td>
<td>0.2 cr.</td>
</tr>
<tr>
<td>DISP 8220</td>
<td>Clinical Endodontics</td>
<td>Variable cr.</td>
</tr>
<tr>
<td></td>
<td>Clinical rotation in endodontics.</td>
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<tr>
<td>DISP 8222</td>
<td>Clinical Periodontics</td>
<td>Variable cr.</td>
</tr>
<tr>
<td></td>
<td>Clinical rotation in periodontics.</td>
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<tr>
<td>DISP 8223</td>
<td>Clinical Oral Maxillofacial Surgery</td>
<td>Variable cr.</td>
</tr>
<tr>
<td></td>
<td>Clinical rotation in oral maxillofacial surgery.</td>
<td></td>
</tr>
<tr>
<td>DISP 8230</td>
<td>Treatment Planning Conference 3</td>
<td>0.2 cr.</td>
</tr>
<tr>
<td></td>
<td>Patient care with development of treatment plan through presentation by student to students and faculty.</td>
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</tr>
<tr>
<td>DISP 8231</td>
<td>Clinical Oral Diagnosis</td>
<td>Variable cr.</td>
</tr>
<tr>
<td></td>
<td>Clinical rotation in oral diagnosis.</td>
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</tr>
</tbody>
</table>

**SECOND YEAR, Fall Semester**

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>DISP 8300</td>
<td>Case Presentation 6</td>
<td>1.3 cr.</td>
</tr>
<tr>
<td></td>
<td>Patient care with development of treatment plan through presentation by student to students and faculty.</td>
<td></td>
</tr>
</tbody>
</table>
DISP 8310 **Clinical Prosthodontics Seminar**
- 0.6 cr.
- Students gain experience in clinical use of cast restorations. Emphasis is placed on the fabrication of restorations that are to function adequately in the patient’s biologic environment.

DISP 8301 **Comprehensive Patient Care Clinic E**
- Variable cr.
- Advanced comprehensive patient care including applied principles of practice management.

DISP 8302 **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 8311 **Cariology III**
- Variable cr.

DISP 8321 **Clinical Endodontics**
- Variable cr.
- Clinical rotation in endodontics.

DISP 8322 **Periodontics 4**
- 0.6 cr.
- This course emphasizes the interrelationships of periodontics and restorative dentistry and the management of advanced periodontal pathology is discussed.

DISP 8323 **Clinical Periodontics**
- Variable cr.
- Clinical rotation in periodontics.

DISP 8330 **Clinical Oral Diagnosis**
- Variable cr.
- Clinical rotation in oral diagnosis.

DISP 8350 **Orthodontics**
- 4.5 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.

**POSTGRADUATE PERIODONTICS CERTIFICATE PROGRAM**

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

<table>
<thead>
<tr>
<th>First Year, Summer Semester</th>
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</thead>
<tbody>
<tr>
<td>DPER 7100 <strong>Periodontics Specialty Clinic 1</strong></td>
</tr>
<tr>
<td>In this postdoctoral course, students receive experiences with all accepted methods of periodontal treatment, dental implantology, and periodontal plastic procedures.</td>
</tr>
<tr>
<td>DPER 7110 <strong>Advanced Oral and Maxillofacial Radiology</strong></td>
</tr>
<tr>
<td>This is an advanced postdoctoral course in oral and maxillofacial radiology that includes lectures and case studies in radiation physics, radiation biology, radiation hygiene and radiographic techniques.</td>
</tr>
<tr>
<td>DPER 7111 <strong>Advanced Periodontal Concepts</strong></td>
</tr>
<tr>
<td>This postdoctoral course is an intense review of periodontal procedures, in which residents are also instructed in periodontal case documentation procedures, intraoral photography, record keeping and clinical protocol.</td>
</tr>
<tr>
<td>DPER 7112 <strong>Postgraduate Dental Implantology Seminar 1A</strong></td>
</tr>
<tr>
<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 1 of three-semester course)</em></td>
</tr>
<tr>
<td>DPER 7113 <strong>Oral Medicine and Clinical Diagnosis</strong></td>
</tr>
<tr>
<td>In this postdoctoral 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.</td>
</tr>
</tbody>
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<thead>
<tr>
<th>First Year, Fall Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>DPER 7200 <strong>Periodontics Specialty Clinic 2</strong></td>
</tr>
<tr>
<td>Prereq: DPER 7100</td>
</tr>
<tr>
<td>In this postdoctoral course, students receive experiences with all accepted methods of periodontal treatment, dental implantology, and periodontal plastic procedures.</td>
</tr>
</tbody>
</table>
DPER 7201  Periodontal Journal Club 1A  0.5 cr.
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 7202  Periodontics Treatment Planning 1A  1.0 cr.
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 7203  Periodontal Literature Review Seminar 1A  4.0 cr.
In this postdoctoral seminar course, relevant readings in the periodontal literature relating to specific topics are assigned and critically discussed.

DPER 7204  Periodontal Case Presentations Seminar 1A  2.0 cr.
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 7210  Advanced Periodontal Biology  2.0 cr.
This postdoctoral 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 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 a study.

**First Year, Spring Semester**

DPER 7300  Periodontics Specialty Clinic 3  6.0 cr.
Prereq: DPER 7100, DPER 7200
In this postdoctoral 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 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 7302  Periodontics Treatment Planning 1B  1.5 cr.
Prereq: DPER 7202
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 2 of two-semester course)

DPER 7303  Periodontal Literature Review Seminar 2  6.0 cr.
Prereq: DPER 7203
In this postdoctoral seminar course, relevant readings in the periodontal literature relating to specific topics are assigned and critically discussed.

DPER 7304  Periodontal Case Presentations Seminar 1B  3.0 cr.
Prereq: DPER 7204
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. (Part 2 of two-semester course)

DPER 7305  Periodontal Research 1  3.0 cr.
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.
<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<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. (Part 2 of two-semester course)</td>
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<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>
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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. (Part 3 of three-semester course)</td>
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<tr>
<td>DPER 7313</td>
<td>Occlusion and TMJ Dysfunction 1</td>
<td>1.5 cr.</td>
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<td>Prereq:</td>
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<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>
</tr>
<tr>
<td></td>
<td>Prereq: DPER 7220</td>
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</tr>
<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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</table>

**Second Year, Summer Semester**

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>DPER 8100</td>
<td>Periodontics Specialty Clinic 4</td>
<td>2.7 cr.</td>
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<tr>
<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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<td></td>
<td>Prereq: DPER 7305</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, 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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<tr>
<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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**Second Year, Fall Semester**

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>DPER 8200</td>
<td>Periodontics Specialty Clinic 5</td>
<td>3.0 cr.</td>
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<tr>
<td></td>
<td>Prereq: DPER 7100, DPER 7200, DPER 7300, DPER 8100</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 8201</td>
<td>Periodontal Journal Club 2A</td>
<td>0.5 cr.</td>
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<td></td>
<td>Prereq: DPER 7201, DPER 7301</td>
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<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 discussed at scheduled seminars. (Part 1 of two-semester course)</td>
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<tr>
<td>DPER 8202</td>
<td>Periodontics Treatment Planning 2A</td>
<td>1.0 cr.</td>
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<tr>
<td></td>
<td>Prereq: DPER 7202, DPER 7302</td>
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<tr>
<td></td>
<td>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)</td>
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</tr>
</tbody>
</table>
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  1.0cr.
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.

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**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,
oral implantology, and periodontal plastic procedures.

DPER 9105  Periodontal Research 5  0.5 cr.
Prereq:  DPER 7305, DPER 8105, DPER 8205, DPER 8305
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 9106  Periodontics Clinical Teaching 2A  4.0 cr.
Prereq:  DPER 8206, DPER 8306
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 9115  Advanced Diagnosis of Oral Lesions  2.0 cr.
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
### Third Year, Fall Semester

<table>
<thead>
<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>DPER 9200</td>
<td>Periodontics Specialty Clinic 8</td>
<td>8.0 cr.</td>
</tr>
<tr>
<td></td>
<td>Prereq: DPER 7100, DPER 7200, DPER 7300, DPER 8100, DPER 8200, DPER 8300, DPER 9100</td>
<td></td>
</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>
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<tr>
<td></td>
<td>Prereq: DPER 7201, DPER 7301, DPER 8201, DPER 8301</td>
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<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>
<td>DPER 9202</td>
<td>Periodontics Treatment Planning 3A</td>
<td>1.0 cr.</td>
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<tr>
<td></td>
<td>Prereq: DPER 7202, DPER 7302, DPER 8202, DPER 8302</td>
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<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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<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>
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<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>
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<tr>
<td>DPER 9205</td>
<td>Periodontal Research 6</td>
<td>2.0 cr.</td>
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<td></td>
<td>Prereq: DPER 7305, DPER 8105, DPER 8205, DPER 8305, DPER 9105</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 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>
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<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>
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<tr>
<td>DPER 9209</td>
<td>Periodontics Specialty Elective</td>
<td>2.0 cr.</td>
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<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>
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<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>
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<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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</tbody>
</table>

### Third Year, Spring Semester

<table>
<thead>
<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 cr.</td>
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<td></td>
<td>Prereq: DPER 7100, DPER 7200, DPER 7300, DPER 8100, DPER 8200, DPER 8300, DPER 9100, DPER 9200</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 9301</td>
<td>Periodontal Journal Club 3B</td>
<td>0.8 cr.</td>
</tr>
<tr>
<td></td>
<td>Prereq: DPER 7201, DPER 7301, DPER 8201, DPER 8301, DPER 9201</td>
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<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 2 of two-semester course)</td>
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<tr>
<td>DPER 9302</td>
<td>Periodontics Treatment Planning 3B</td>
<td>1.5 cr.</td>
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<tr>
<td></td>
<td>Prereq: DPER 7202, DPER 7302, DPER 8202, DPER 8302, DPER 9202</td>
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<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 2 of two-semester course)</td>
<td></td>
</tr>
</tbody>
</table>
DPER 9303  Periodontal Literature Review Seminar 6  6.0 cr.
Prereq:  DPER 7203, DPER 7303, DPER 8203, DPER 8303, DPER 9203
In this postdoctoral seminar course, relevant readings in the periodontal literature relating to specific topics are assigned and critically discussed.

DPER 9304  Periodontal Case Presentations Seminar 3B  3.0 cr.
Prereq:  DPER 7204, DPER 7304, DPER 8204, DPER 8304, DPER 9204
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 9305  Periodontal Research 7  3.0 cr.
Prereq:  DPER 7305, DPER 8105, DPER 8205, DPER 8305, DPER 9105, DPER 9205
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 9306  Periodontics Clinical Teaching 2C  6.0 cr.
Prereq:  DPER 8206, DPER 8306, DPER 9106, DPER 9206
Postdoctoral periodontics students gain experience in instructing dental and hygiene students after receiving instruction in the basics of didactic and clinical teaching. (Part 3 of three-semester course)

DPER 9309  Periodontics Specialty Elective  3.0 cr.
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.

DPER 9312  Postgraduate Dental Implantology Seminar 3B  1.5 cr.
Prereq:  DPER 7112, DPER 7212, DPER 7312, DPER 8212, DPER 8312, DPER 9212
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)

ORTHODONTICS CERTIFICATE PROGRAM
("The Orthodontics Certificate curriculum is subject to change without notice.")

FIRST YEAR, Fall Semester

DSOR 5101  Orthodontics 101 – Boot Camp  4.3 cr.
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.

DSOR 5102  Dentofacial Growth and Development 1  2.0 cr.
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.

DSOR 5103  Diagnosis and Treatment Planning 1  3.0 cr.
This post-doctoral course is an in-depth study of advanced orthodontic data gathering and interpretation as used in orthodontic diagnosis and treatment planning.

DSOR 5104  Biomechanics 1  3.0 cr.
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.

DSOR 5105  Research Methodology and Biostatistics 1  2.0 cr.
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.

DSOR 5107  Treatment Planning 1  3.0 cr.
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 5108  Current Literature Review 1  1.0 cr.
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.
<table>
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<tr>
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<tbody>
<tr>
<td>DSOR 5111</td>
<td>History of Orthodontics &amp; Dentofacial Orthopedics</td>
<td>1.0 cr.</td>
</tr>
<tr>
<td>DSOR 5841</td>
<td>Research 1</td>
<td>0.4 cr.</td>
</tr>
<tr>
<td>DSOR 5931</td>
<td>Clinical Orthodontics 1</td>
<td>7.8 cr.</td>
</tr>
<tr>
<td>DSOR 5201</td>
<td>Pathology/Microanatomy Spring</td>
<td>1.2 cr.</td>
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<tr>
<td>DSOR 5202</td>
<td>Dentofacial Growth and Development 2</td>
<td>2.5 cr.</td>
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<tr>
<td>DSOR 5203</td>
<td>Diagnosis and Treatment Planning 2</td>
<td>1.3 cr.</td>
</tr>
<tr>
<td>DSOR 5204</td>
<td>Biomechanics 2</td>
<td>5.0 cr.</td>
</tr>
<tr>
<td>DSOR 5205</td>
<td>Research Methodology &amp; Biostatistics 2</td>
<td>2.5 cr.</td>
</tr>
<tr>
<td>DSOR 5207</td>
<td>Treatment Planning 2</td>
<td>3.8 cr.</td>
</tr>
<tr>
<td>DSOR 5208</td>
<td>Current Literature Review 2</td>
<td>1.3 cr.</td>
</tr>
<tr>
<td>DSOR 5211</td>
<td>Treatment in Preadolescent Children</td>
<td>1.0 cr.</td>
</tr>
<tr>
<td>DSOR 5842</td>
<td>Research 2</td>
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</tr>
<tr>
<td>DSOR 5932</td>
<td>Clinical Orthodontics 2</td>
<td>9.5 cr.</td>
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</table>

**FIRST YEAR, Spring Semester**

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<td>Research Methodology &amp; Biostatistics 2</td>
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<td>Treatment Planning 2</td>
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<td>DSOR 5932</td>
<td>Clinical Orthodontics 2</td>
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## FIRST YEAR, Summer Semester

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tr>
<td>DSOR 5301</td>
<td>Head and Neck Anatomy</td>
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<td></td>
<td>This post-doctoral course is an advanced study of head and neck anatomy as it relates to orthodontic patient care.</td>
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<tr>
<td>DSOR 5304</td>
<td>Biomechanics 3</td>
<td>1.5 cr.</td>
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<td></td>
<td>Prereq: DSOR5104, DSOR5204</td>
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<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>
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<tr>
<td>DSOR 5307</td>
<td>Treatment Planning 3</td>
<td>2.0 cr.</td>
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<td></td>
<td>Prereq: DSOR5107, DSOR 5207</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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<tr>
<td>DSOR 5308</td>
<td>Current Literature Review 3</td>
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<td></td>
<td>Prereq: DSOR 5108, DSOR 5208</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 5311</td>
<td>Scientific Writing and Evaluation</td>
<td>1.5 cr.</td>
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<tr>
<td></td>
<td>This post-doctoral course is an in-depth study of scientific writing to prepare the student to evaluate the literature as well as to prepare a scientific manuscript for publication.</td>
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<tr>
<td>DSOR 5321</td>
<td>Orthognathic Surgical Treatment</td>
<td>1.5 cr.</td>
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<tr>
<td></td>
<td>This post-doctoral course is a study of the orthognathic surgical options and treatment of patients, including distraction osteogenesis and other advances in surgical techniques.</td>
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<tr>
<td>DSOR 5331</td>
<td>Management of the TMJ Patient</td>
<td>0.7 cr.</td>
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<td></td>
<td>This post-doctoral course is an advanced course in diagnosing and managing the patient with tempromandibular joint symptoms and dysfunction.</td>
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<tr>
<td>DSOR 5341</td>
<td>Fundamentals of Teaching</td>
<td>0.7 cr.</td>
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<td></td>
<td>This post-doctoral course teaches the student the basics of clinical and didactic teaching to enable the student to successfully participate in the orthodontic instruction of predoctoral students and to interact and teach their non-orthodontist colleagues on completion of the program.</td>
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<tr>
<td>DSOR 5843</td>
<td>Research 3</td>
<td>1.7 cr.</td>
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<tr>
<td></td>
<td>Prereq: DSOR5841, DSOR5842</td>
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<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 5933</td>
<td>Clinical Orthodontics 3</td>
<td>5.5 cr.</td>
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<td></td>
<td>Prereq: DSOR 5931, DSOR 5932</td>
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<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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## SECOND YEAR, Fall Semester

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<tbody>
<tr>
<td>DSOR 6101</td>
<td>Implants in the Orthodontic Patient</td>
<td>1.2 cr.</td>
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<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>
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<tr>
<td>DSOR 6107</td>
<td>Treatment Planning 4</td>
<td>3.4 cr.</td>
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<td></td>
<td>Prereq: DSOR 5107, DSOR 5207, DSOR 5307</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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</table>
DSOR 6108  Current Literature Review 4  1.1 cr.
Prereq: DSORS5108, DSORS5208, DSORS5308
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 6109  Orthodontic Predoctoral Laboratory Teaching 1  0.3 cr.
This post-doctoral course requires the student to teach basic orthodontic diagnostic and treatment techniques to the predoctoral dental student.

DSOR 6111  Periodontic/Orthodontic Treatment  1.2 cr.
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.

DSOR 6121  Genetics  2.1 cr.
This post-doctoral course is a study of genetics and advances in genetics and the impact on the care of the orthodontic patient.

DSOR 6844  Research 4  2.2 cr.
Prereq: DSORS841, DSORS842, DSORS843
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.

SECOND YEAR, Spring Semester

DSOR 6201  Ethics, Practice Management, Jurisprudence  2.5 cr.
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.

DSOR 6206  Dento/Craniofacial Anomalies  1.3 cr.
Prereq: DSORS606, DSORS606, DSORS606, DSORS8106
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.

DSOR 6207  Treatment Planning 5  3.8 cr.
Prereq: DSORS107, DSORS207, DSORS307, DSORS6107
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 6208  Current Literature Review 5  1.3 cr.
Prereq: DSORS108, DSORS208, DSORS308, DSORS6108
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 6845  Research 5  2.4 cr.
Prereq: DSORS841, DSORS842, DSORS843, DSORS6844
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 6934  Clinical Orthodontics IV Fall  9.6 cr.
Prereq: DSORS931, DSORS932, DSORS933
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 6208  Current Literature Review 5  1.3 cr.
Prereq: DSORS108, DSORS208, DSORS308, DSORS6108
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 6845  Research 5  2.4 cr.
Prereq: DSORS841, DSORS842, DSORS843, DSORS6844
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.
### THIRD YEAR, Summer Semester

<table>
<thead>
<tr>
<th>Course Code</th>
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<tr>
<td>DSOR 7107</td>
<td>Treatment Planning 6</td>
<td>2.2 cr.</td>
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<tr>
<td></td>
<td>Prereq: DSOR5107, DSOR5207, DSOR5307, DSOR6107, DSOR6207</td>
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<tr>
<td>DSOR 7112</td>
<td>Orthodontic Clinical Teaching 2</td>
<td>0.9 cr.</td>
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<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 7108</td>
<td>Current Literature Review 6</td>
<td>0.7 cr.</td>
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<tr>
<td></td>
<td>Prereq: DSOR5108, DSOR5208, DSOR 5308, DSOR 6108, DSOR 6208</td>
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<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 7846</td>
<td>Research 6</td>
<td>1.7 cr.</td>
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<tr>
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<td>Prereq: DSOR5841, DSOR5842, DSOR5843, DSOR6844, DSOR6845</td>
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<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 7936</td>
<td>Clinical Orthodontics 6</td>
<td>6.4 cr.</td>
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<td>Prereq: DSOR5931, DSOR5932, DSOR5933, DSOR6934, DSOR6935</td>
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<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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<tr>
<td>DSOR 7938</td>
<td>Clinical Problems 1</td>
<td>0.7 cr.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
<td></td>
</tr>
</tbody>
</table>

### THIRD YEAR, Fall Semester

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSOR 7207</td>
<td>Treatment Planning 7</td>
<td>2.8 cr.</td>
</tr>
<tr>
<td></td>
<td>Prereq: DSOR5107, DSOR5207, DSOR5307, DSOR6107, DSOR6207, DSOR7107</td>
<td></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 7208</td>
<td>Current Literature Review 7</td>
<td>1.0 cr.</td>
</tr>
<tr>
<td></td>
<td>Prereq: DSOR5108, DSOR5208, DSOR 5308, DSOR 6108, DSOR 6208, DSOR 7108</td>
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<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 7209</td>
<td>Orthodontic Predoctoral Laboratory Teaching 2</td>
<td>0.3 cr.</td>
</tr>
<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>
<td></td>
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<tr>
<td>DSOR 7212</td>
<td>Orthodontic Clinical Teaching 3</td>
<td>1.1 cr.</td>
</tr>
<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>
<td></td>
</tr>
<tr>
<td>DSOR 7847</td>
<td>Research 7</td>
<td>1.7 cr.</td>
</tr>
<tr>
<td></td>
<td>Prereq: DSOR5841, DSOR5842, DSOR5843, DSOR6844, DSOR6845, DSOR7846</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>DSOR 7937</td>
<td>Clinical Orthodontics 7</td>
<td>8.2 cr.</td>
</tr>
<tr>
<td></td>
<td>Prereq: DSOR5931, DSOR5932, DSOR5933, DSOR6934, DSOR6935, DSOR 7936</td>
<td></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>
<td></td>
</tr>
</tbody>
</table>
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

**BMGN 7650  Research in Biochemistry and Molecular Genetics**  
Dr. P. Megee – 303-724-3270.  
Prereq: Consent of instructor.  
Research work in biochemistry and molecular genetics.

**BMGN 7660  Biochemistry Seminar**  
1.0 cr.  
Prereq: Consent of instructor.  
Seminars series provides a forum for the presentation of scientific experiments and information in biochemistry by faculty, postdoctoral fellows graduate students, and invitee outside guest speakers.

**BMGN 8990  Doctoral Thesis**  
Variable cr.  
Prereq: Consent of instructor.  
Doctoral thesis work in biochemistry and molecular genetics.

### BIOINFORMATICS

**BIOI 7210  Introduction to Computer Science**  
3.0 cr.  
Dr. D. Lezotte – 303-315-6873.  
Prereq: CU Boulder CSCI 3155 or equivalent.  
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**  
3.0 cr.  
Dr. M. Fitzgerald – 303-315-6873.  
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.

**BIOI 7412  Mathematics for Bioscientists**  
1.0 cr.  
Dr. S. Billups - 303-315-6873.  
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.

**BIOI 7601  Selected Studies in Biomedical Science for Bioinformatics Students 1**  
3.0 cr.  
Dr. D. Lezotte – 303-315-6873.  
Crosslisted: IDPT 7801.  
Prereq: Consent of instructor.  
Selected topics in structural, cellular and molecular biology chosen among the lectures offered in IDPT 7801.

**BIOI 7602  Selected Studies in Biomedical Science for Bioinformatics Students 2**  
3.0 cr.  
Dr. D. Lezotte – 303-315-6873.  
Crosslisted: IDPT 7802.  
Prereq: Consent of instructor.  
Selected topics in structural, cellular and molecular biology chosen among the lectures offered in IDPT 7802.

**BIOI 7603  Selected Studies in Biomedical Science for Bioinformatics Students 3**  
3.0 cr.  
Dr. D. Lezotte – 303-315-6873.  
Crosslisted: IDPT-7803.  
Prereq: Consent of instructor.  
Selected topics in structural, cellular and molecular biology chosen among the lectures offered in IDPT 7803.

**BIOI 7605  Ethics and Values in Computational Bioscience Research**  
1.0 cr.  
Dr. M.Yarborough - 303-315-6873.  
Prereq: 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 – 303-315-9030.  
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.

**BIOI 7655  Statistical Methods in Genetic Association Studies**  
2.0 cr.  
Dr. T. Fingerlin -303-315-9030.  
Crosslisted: BIOS 6612.  
This course is designed to give an introduction to statistical methods in genetic association studies. Topics include an introduction to population genetics and concepts relevant to genetic association studies including design strategies and analysis methods for case-control and family data.
BIOI 7710  Survey of Bioinformatics Methods  2.0 cr.
Dr. L. Hunter – 303-315-6873.  Prereq: Consent of instructor, non-bioinformatics major.
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 1  4.0 cr.
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 what computational techniques are used for solving inference problems in molecular biology?

BIOI 7712  Bioinformatics 2  4.0 cr.
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  Variable cr.
Dr. L. Hunter – 303-315-6873.  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. L. Hunter – 303-315-6873.  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  Variable cr.
Dr. L. Hunter – 303-315-6873.  Prereq: Consent of instructor.
Special topics course with focus on new emerging bioinformatics and computational biology problems and techniques.

BIOI 8990  Doctoral Thesis  Variable cr.
Faculty - 303-315-6873.
Doctoral thesis work in bioinformatics.

BIOS 6601  Biostatistics Methods  4.0 cr.
Dr. J. Kittelson – 303-315-9030.
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 linear regression. Statistical software is used.

BIOS 6606  Statistics for the Basic Sciences  3.0 cr.
Dr. D. Everett – 303-315-9030.
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 6611  Introduction to Applied Statistics  3.0 cr.
Dr. A. Barón – 303-315-9030.  Prereq: Differential calculus.
This is a first course in applied statistics that 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 is used extensively.

BIOS 6612  Linear Models  3.0 cr.
Dr. L. Ogden - 303-315-9030.  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 6613  Advanced Statistical Modeling  3.0 cr.
This course a variety of advanced statistical modeling methods used in the analysis of complex data. The course includes extensive analysis of real data and uses the statistical package SAS and some matrix algebra and calculus.
BIOS 6621  Statistical Consulting  1.0 cr.
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 1  3.0 cr.
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 2  3.0 cr.
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.
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 – 303-315-9030. 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.
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.
Faculty – 303-315-9030.
Masters research paper in biostatistics.

BIOS 6655  Statistical Methods in Genetic Association Studies  2.0 cr.
Dr. T. Fingerlin – 303-315-9030. Prereq: BIOS 6612.
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 6680  SAS Programming for Research Data Management  2.0 cr.
Dr. J. Bondy – 303-315-8021.
This course provides the necessary introduction and experience to prepare data for statistical analyses. Specifically, this course will include: inputting, manipulating, recording, reformatting, and organizing information into system/software/study specific formats. This course will also emphasize report writing and some 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 – 303-315-6873.
This course provides the necessary introduction and experience to build and maintain information systems to facilitate data intensive clinical, epidemiological or health services research in an academic health sciences environment. This course addresses: database design, building data dictionaries, system implementation, maintenance, report writing and exporting data to other systems for analyses.

BIOS 6683  Introduction to Health Information Technology  3.0 cr.
Dr. P. Kaplan – 303-315-6873. Prereq: Consent of instructor, graduate degree in clinical sciences or PRMD 6603.
An introductory course in Medical Informatics that exposes students to a broad spectrum of computer-based applications in the areas of clinical medicine and public health; with focus on applications that use data, information and knowledge processed by computers to improve the quality and efficiency of clinical medicine and delivery of public health services.

BIOS 6840  Research in Biostatistics  Variable cr.
Dr. G. Grunwald – 303-315-9030.
This course is for the Masters 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.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
<th>Faculty</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOS 6950</td>
<td>Masters Thesis</td>
<td>Variable cr.</td>
<td>Faculty</td>
<td></td>
</tr>
<tr>
<td>BIOS 7711</td>
<td>Longitudinal Data Analysis</td>
<td>3.0 cr.</td>
<td>Dr. G. Zerbe</td>
<td>BIOS 6612</td>
</tr>
<tr>
<td>BIOS 7712</td>
<td>Special Topics in Statistics</td>
<td>1.0 cr.</td>
<td>Dr. G. Grunwald</td>
<td>BIOS 7711</td>
</tr>
<tr>
<td>BIOS 7713</td>
<td>Statistical Methods for Missing Data</td>
<td>2.0 cr.</td>
<td>Dr. D. Fairclough</td>
<td>BIOS 7711, BIOS 7712</td>
</tr>
<tr>
<td>BIOS 7899</td>
<td>Independent Study in Biostatistics</td>
<td>Variable cr.</td>
<td>Dr. G. Grunwald</td>
<td>Consent of instructor</td>
</tr>
<tr>
<td>BMST 7350</td>
<td>Proteins</td>
<td>3.0 cr.</td>
<td>Dr. R. Hodges</td>
<td>303-724-3268</td>
</tr>
<tr>
<td>BMST 7354</td>
<td>Structural Analysis of Bio-molecules 1</td>
<td>2.0 cr.</td>
<td>Dr. R. Hodges</td>
<td>303-724-3268</td>
</tr>
<tr>
<td>BMST 7450</td>
<td>Protein Chemistry 2</td>
<td>2.0 cr.</td>
<td>Dr. R. Hodges</td>
<td>303-724-3268</td>
</tr>
<tr>
<td>BMST 7454</td>
<td>Structural Analysis of Biomolecules 2</td>
<td>2.0 cr.</td>
<td>Dr. R. Hodges</td>
<td>303-724-3268</td>
</tr>
<tr>
<td>BMST 7650</td>
<td>Research in Biomolecular Structure</td>
<td>Variable cr.</td>
<td>Dr. R. Hodges</td>
<td>Consent of instructor</td>
</tr>
<tr>
<td>BMST 7660</td>
<td>Biomolecular Structure Seminar</td>
<td>1.0 cr.</td>
<td>Dr. R. Hodges</td>
<td>303-724-3268</td>
</tr>
<tr>
<td>BMST 8990</td>
<td>Doctoral Dissertation</td>
<td>Variable cr.</td>
<td>Faculty</td>
<td>303-724-3268</td>
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**BIOMOLECULAR STRUCTURE**

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<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
<th>Faculty</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMST 7350</td>
<td>Proteins</td>
<td>3.0 cr.</td>
<td>Dr. R. Hodges</td>
<td>303-724-3268</td>
</tr>
<tr>
<td>BMST 7450</td>
<td>Protein Chemistry 2</td>
<td>2.0 cr.</td>
<td>Dr. R. Hodges</td>
<td>303-724-3268</td>
</tr>
<tr>
<td>BMST 7650</td>
<td>Research in Biomolecular Structure</td>
<td>Variable cr.</td>
<td>Dr. R. Hodges</td>
<td>Consent of instructor</td>
</tr>
<tr>
<td>BMST 7660</td>
<td>Biomolecular Structure Seminar</td>
<td>1.0 cr.</td>
<td>Dr. R. Hodges</td>
<td>303-724-3268</td>
</tr>
<tr>
<td>BMST 8990</td>
<td>Doctoral Thesis</td>
<td>Variable cr.</td>
<td>Dr. R. Hodges</td>
<td>303-724-3268</td>
</tr>
</tbody>
</table>

**BIOS 6950 Masters Thesis**
Masters thesis work in biostatistics.

**BIOS 7711 Longitudinal Data Analysis**
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**
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**
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**
Dr. G. Grunwald – 303-315-9030. Prereq: Consent of instructor.
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.

**BMST 7350 Proteins**
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.

**BMST 7354 Structural Analysis of Bio-molecules 1**
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.

**BMST 7450 Protein Chemistry 2**
This course presents methods and principles of protein/peptide purification and enzyme catalysis, including electron transfer and mutagenesis. In addition, the investigation of protein and enzyme structure/function, the role of molecular dynamics, and the use of molecular simulations in investigations of protein-ligand and protein/protein interactions will be presented.

**BMST 7454 Structural Analysis of Biomolecules 2**
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 – 303-724-3268. Prereq: Consent of instructor.
Research in biomolecular structure.

**BMST 7660 Biomolecular Structure Seminar**
Dr. R. Hodges – 303-724-3268.
Seminar series provides 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 – 303-724-3268.
Doctoral thesis work in biomolecular structure.
CANCER BIOLOGY

CANB 7600  Cancer Biology  3.0 cr.
This course integrates the examination of cancer at molecular, cellular, tissue, and organismal levels. It is open to all graduate students with an interest in mechanisms and models of cancer and will impart broad appreciation for current issues and problems.

CANB 7613  Research Seminars and Journal Club  1.0 cr.
Dr. R. Evans – 303-724-4306.
Current research topics in experimental pathology, virology, and tumor biology. Graduate students and faculty presentations.

CANB 7620  Histophysiology  3.0 cr.
Dr. D. Orlicky – 303-724-4308.
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  Variable cr.
Faculty – 303-724-4301.  Prereq: Consent of instructor.
Research work in cancer biology.

CANB 8990  Doctoral Thesis  Variable cr.
Faculty – 303-724-4301.  Prereq: Consent of instructor.
Doctoral thesis work in cancer biology.

CELL AND DEVELOPMENTAL BIOLOGY

CDBI 7605  Developmental Biology  3.0 cr.
Dr. L. Barlow – 303-724-3422.  Prereq: IDPT 7801, 7802, 7803.
An issues-oriented introductory course including lectures, discussion of current literature, and student presentations. It will include: establishment of embryonic axes, gastrulation and germ layers, subdivision of the axes and secondary fields, induction pattern formation, sex determination, and germline vs. soma in both invertebrate and vertebrate systems.

CDBI 7650  Research in Cell and Developmental Biology  Variable cr.
Faculty – 303-724-3441.  Prereq: Consent of the Instructor.
Laboratory research in cell and developmental biology

CDBI 7660  Stem Cells and Tissue Regeneration  1.0 cr.
Dr. J. Hooper – 303-724-3417.
Stem cells play fundamental and ongoing roles in tissue replacement, and in meeting physiological challenges. We will discuss tissue replacement and regeneration in a variety of systems and therapeutic prospects for improved understanding of stem cell biology.

CDBI 7670  Advanced Topics in Cell and Developmental Biology  1.0 cr.
Faculty – 303-724-3422.  Prereq: IDPT 7801, 7802, 7803
This course is offered in a variety of technical and thematic areas in modern cell and developmental biology. Previous courses have covered such topics as Digital Imaging, Virtual Reality in Medicine and Microarrays. The course includes lectures, discussions and workshops.

CDBI 7850  Independent Study in Cell and Developmental Biology  Variable cr.
Faculty – 303-724-3422.  Prereq: IDPT 7801, 7802, 7803, CDBI 7605
Independent Study is to accommodate students (1) to take a professional school course for credit or (2) to gain a defined expertise with a faculty mentor other than their thesis advisor. Consent of the faculty member offering the Independent Study and the Program Director are required.

CDBI 8990  Doctoral Thesis  Variable cr.
Faculty – 303-724-3441.  Prereq: Consent of the Instructor
Doctoral thesis work in Cell and Developmental Biology
## CHILD HEALTH ASSOCIATE/PHYSICIAN ASSISTANT

### FIRST YEAR

#### SUMMER SEMESTER*

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Semester</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPAS 5100</td>
<td>Appendicular Anatomy</td>
<td>Summer</td>
<td>3.0</td>
</tr>
<tr>
<td></td>
<td>In-depth study of gross human anatomic structure with emphasis directed to musculoskeletal and neuromuscular systems. Clinical correlates consider normal movement and pathological processes of the appendicular skeleton.</td>
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<tr>
<td>MPAS 5101</td>
<td>Axial Anatomy</td>
<td>Summer</td>
<td>3.0</td>
</tr>
<tr>
<td></td>
<td>Study of gross human anatomic structure with emphasis directed to musculoskeletal and neuromuscular system. Clinical correlates consider normal movement and pathological processes of the axial skeleton. Clinical correlates of visceral systems included.</td>
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</tr>
<tr>
<td>MPAS 5110</td>
<td>Immunology</td>
<td>Summer</td>
<td>1.0</td>
</tr>
<tr>
<td></td>
<td>A comprehensive course of basic and some clinical immunology with the stress on the human immune system.</td>
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</tr>
<tr>
<td>MPAS 5201</td>
<td>Psychosoc Asp HC I</td>
<td>Summer</td>
<td>2.0</td>
</tr>
<tr>
<td></td>
<td>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.</td>
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<tr>
<td>MPAS 5400</td>
<td>Physical Diagnosis</td>
<td>Summer</td>
<td>2.0</td>
</tr>
<tr>
<td></td>
<td>This course consists of lectures on physical diagnosis of pediatric, adult and geriatric patients, with an opportunity to practice exam skills during practicum sessions.</td>
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</tr>
<tr>
<td>MPAS 5601</td>
<td>Prob-Bas Amb Med</td>
<td>Summer</td>
<td>1.0</td>
</tr>
<tr>
<td></td>
<td>An introduction to ambulatory medicine in a problem based format. This includes a demonstration of a problem based case, a review of comprehensive medical history taking as well as methods of accessing information to assist in solving clinical problems.</td>
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</table>

#### FALL SEMESTER*

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Semester</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPAS 5111</td>
<td>Int Sci Bas to Med I</td>
<td>Fall</td>
<td>4.0</td>
</tr>
<tr>
<td></td>
<td>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.</td>
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<tr>
<td>MPAS 5120</td>
<td>Medical Microbio</td>
<td>Fall</td>
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<td></td>
<td>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.</td>
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<tr>
<td>MPAS 5202</td>
<td>Psychosoc Asp HC II</td>
<td>Fall</td>
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<td></td>
<td>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.</td>
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<tr>
<td>MPAS 5300</td>
<td>Assess&amp;Care-Neonate</td>
<td>Fall</td>
<td>2.0</td>
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<tr>
<td></td>
<td>Common neonatal and infant medical problems are presented in preparation for the Lifespan clinical experience, MPAS 5930.</td>
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</tbody>
</table>
MPAS 5412 Physical Diagnosis  
J. Nieman, PAC – 303-315-7963 x3 Max: 40  
This course is a continuation of MPAS 5400.

MPAS 5420 Women's Health  
C. Ruff, MS, PAC – 303-315-7963 x3 Max: 40  
The course is designed to provide students with basic information about obstetrics and gynecology

MPAS 5602 Prob-Bas Amb Med II  
S. Hoops, PAC – 303-315-7963 x3 Max: 40  
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.

SPRING SEMESTER*

MPAS 5112 Int Sci Bas to Med II  
Dr. M. Hall – 303-315-7963 x3. Max: 40  
This course is a continuation of MPAS 5111.

MPAS 5131 Gen and Sys Pathol  
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  
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 III  
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  
This small group seminar addresses techniques and approaches to guiding and advising clients in their role as parents.

MPAS 5603 Prob-Bas Amb Med III  
S. Hoops, PAC – Max: 40  
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  
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.

PRMD 5000 Ethics in Hlth Prof I  
Course Director, Jackie Glover, Ph.D., 303-315-6093.  
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*

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Year</th>
<th>Credits</th>
<th>Instructor(s)</th>
<th>Office</th>
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<tbody>
<tr>
<td>MPAS 6101</td>
<td>Pharmacology</td>
<td>Fall</td>
<td>2.0 cr</td>
<td>Dr. T. French</td>
<td>– 303-315-7963</td>
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<tr>
<td>MPAS 6201</td>
<td>App Behav Med I</td>
<td>Fall</td>
<td>2.0 cr</td>
<td>K. Tick, LCSW</td>
<td>– 303-315-7963</td>
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<tr>
<td>MPAS 6301</td>
<td>Pediatric Clin Med I</td>
<td>Fall</td>
<td>2.5 cr</td>
<td>J. Bowser, PAC, C. Robohm</td>
<td>– 303-315-7963</td>
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<tr>
<td>MPAS 6401</td>
<td>Adult Clin Med I</td>
<td>Fall</td>
<td>2.5 cr</td>
<td>J. Bowser, PAC, C. Robohm</td>
<td>– 303-315-7963</td>
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<tr>
<td>MPAS 6511</td>
<td>Emergency Med I</td>
<td>Fall</td>
<td>2.0 cr</td>
<td>S. Fallon, PAC</td>
<td>– 303-315-7963</td>
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<tr>
<td>MPAS 6610</td>
<td>Pediatric Derm</td>
<td>Fall</td>
<td>1.0 cr</td>
<td>Dr. J. Burch</td>
<td>– 303-315-7963</td>
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<tr>
<td>MPAS 6620</td>
<td>Nutrition</td>
<td>Fall</td>
<td>1.0 cr</td>
<td>Dr. S. Johnson, L. Primak, co-director</td>
<td>– 303-315-7963</td>
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<tr>
<td>MPAS 6701</td>
<td>Evidence-Bas Med I</td>
<td>Fall</td>
<td>2.0 cr</td>
<td>A. Glicken, MSW</td>
<td>– 303-315-7963</td>
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<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.,</td>
<td>303-315-6093</td>
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## SPRING SEMESTER

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<tr>
<th>Course Code</th>
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<th>Credits</th>
<th>Instructor(s)</th>
<th>Office</th>
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<tbody>
<tr>
<td>MPAS 6102</td>
<td>Pharm for CHA II</td>
<td>Spring</td>
<td>4.0 cr</td>
<td>Dr. T. French</td>
<td>– 303-315-7963</td>
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<tr>
<td>MPAS 6202</td>
<td>App Behav Med II</td>
<td>Spring</td>
<td>2.0 cr</td>
<td>K. Tick, LCSW</td>
<td>– 303-315-7963</td>
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<tr>
<td>MPAS 6302</td>
<td>Pediatric Clin Med II</td>
<td>Spring</td>
<td>2.5 cr</td>
<td>J. Bowser, PAC, C. Robohm</td>
<td>– 303-315-7963</td>
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<tr>
<td>MPAS 6402</td>
<td>Adult Clin Med II</td>
<td>Spring</td>
<td>2.5 cr</td>
<td>J. Bowser, PAC, C. Robohm, PAC</td>
<td>303-315-7963 X3. Max: 40</td>
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<tr>
<td>MPAS 6510</td>
<td>Orthopedics</td>
<td>Spring</td>
<td>1.0 cr</td>
<td>R. Gierbolini, PAC</td>
<td>– 303-315-7963</td>
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<tr>
<td>MPAS 6512</td>
<td>Emergency Med</td>
<td>Spring</td>
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<td></td>
<td>S. Fallon, PAC – 303-315-7963 x3. Max: 40</td>
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<td></td>
<td>Discussion of the principles of assessment and management of medical and surgical emergencies.</td>
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<tr>
<td>MPAS 6702</td>
<td>Evid Bas Med II</td>
<td>Spring</td>
<td>1.0</td>
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<td></td>
<td>A. Glicken, MSW – 303-315-7963 x3. Max: 40</td>
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<tr>
<td></td>
<td>This course is a continuation of MPAS 6701.</td>
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<tr>
<td>MPAS 6800</td>
<td>PA Role Development</td>
<td>Spring</td>
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<td></td>
<td>C. Ruff, PAC – 303-315-7963 x3. Pass/Fail Max: 40</td>
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<td>Lectures and discussions on PA professional development, including professional behavior, ethical decision making, and risk management.</td>
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**SUMMER SEMESTER ROTATION OPTIONS**

Please see “All Semesters” below.

**ALL SEMESTERS**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Semester</th>
<th>Credits</th>
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<tbody>
<tr>
<td>MPAS 6500</td>
<td>Surgery Clin Prec</td>
<td>All Sems.</td>
<td>1.5</td>
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<tr>
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<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>
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<tr>
<td>MPAS 6600</td>
<td>Community Clinic</td>
<td>All Sems.</td>
<td>1.5</td>
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<tr>
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<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>
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<tr>
<td>MPAS 6700</td>
<td>Wmn's Hlth Clin Prec</td>
<td>All Sems.</td>
<td>1.5</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>
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**THIRD YEAR**

**ALL SEMESTERS**

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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Semester</th>
<th>Credits</th>
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<tbody>
<tr>
<td>MPAS 6920</td>
<td>Neonatology</td>
<td>All Sems.</td>
<td>2.0</td>
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<tr>
<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>
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<tr>
<td>MPAS 6930</td>
<td>Amb Ped Med (Sec I, II)</td>
<td>All Sems.</td>
<td>2.0</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>
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<tr>
<td>MPAS 6932</td>
<td>Inpatient Ped Med</td>
<td>All Sems.</td>
<td>2.0</td>
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<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>
<td>MPAS 6934</td>
<td>Ped Elec (Sec I, II, III)</td>
<td>All Sems.</td>
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<td>This clinical experience involves active participation in a specialty area of pediatric medicine.</td>
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</table>
### MPAS 6938  Adolesc Med
- 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
- 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
- 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)
- This block is comprised of three sections. All three sections 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
- 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.
CLSC 6040  Intro to Database & Web Design Programming  1.0 cr.
J. Huggins, MSW, MSCIS - 303-399-8020 x3096.
Prereq: Graduate degree in clinical science or PRMD 6603 or consent of instructor.
This course will provide the student with hands-on training for designing and creating both a database and a
website page for research project team use. For students without prior programming experience, this introductory class is
a general pre-requisite to all other health information technology classes.

CLSC 6050  Designing and Implementing Clinical Disease Management Programs  2.0 cr.
Dr. D. Tinkelman - 303-399-8020 x 3716. Prereq: BIOS 6601 or BIOS 6612 are suggested.
This course is designed to introduce participants to the new and broadening field of disease management.
Students will learn about the positive and negative aspects of varied approaches in the field. The economic and clinical
aspects of disease management will be discussed.

CLSC 6060  Systems Analysis and Design  3.0 cr.
Dr. J. Karimi - 303-399-8020 x 3716. Crosslisted: CU Denver ISMG 6040. Prereq: Computer programming experience
CLSC 6040 is preferred.
Offered as a collaborative offering with UCD and HSC faculty, this course emphasizes information requirements
analysis, logical system specification, and detailed system design. Topics include structured system development
methodologies, prototyping, file design, systems architecture, systems testing and software design strategies.

CLSC 6080  Database Management Systems  3.0 cr.
Dr. W. Zhiping - 303-399-8020 x 3716. Crosslisted: CU Denver ISMG 6080. Prereq: Computer programming experience
CLSC 6040 is preferred.
Offered as a collaborative offering with UCD, 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. B. Ghosh - 399-8020 x 3716. Crosslisted: CU Denver ISMG 6120 Prereq: Computer programming experience CLSC
6040 is preferred.
Offered as a collaborative offering with UCD, 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 6250  Introduction to Medical Informatics  3.0 cr.
Dr. D. Lezotte – 303-315-6873. Prereq: Graduate degree in clinical science or PRMD 6603 or consent of instructor.
Introductory course in medical informatics, exposing students to the entire spectrum of medical informatics
applications and teaching skills to design and manage information systems that use data to promote improved quality and
efficiency of clinical care.

CLSC 6251  Assistive Technology: Advanced Practices in AT Assessment  3.0 cr.
Dr. C. Bodine, M. Melonis, M.N.S. - 303-315-1281. Prereq: Consent of instructor.
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: Implement for Low Incidence Disabilities  3.0 cr.
Dr. C. Bodine, M. Melonis, M.N.S. - 303-315-1281. Prereq: Consent of instructor.
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, Dr. M. Buning, M. Melonis, M.N.S. - 303-315-1281. Prereq: Consent of instructor.
Students will participate in fieldwork that offers tailored opportunities to engage in AT assessments and
implementation in various settings. A peer-reviewed submission must be coordinated before a grade is assigned for this
course.
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<th>Course Title</th>
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<tbody>
<tr>
<td>CLSC 6281</td>
<td>Assistive Technology: Engineering and Biotechnology: Principles &amp; Emerging Technologies</td>
<td>3.0 cr.</td>
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<td>Dr. C. Bodine, Dr. M. Lightner - 303-315-1281. Prereq: Consent of instructor.</td>
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<td>The student will develop an understanding of engineering principles and the technical design process relevant to assistive technology. The course will provide hands-on experience in several technologies to give the students a real-life appreciation of specific technologies and processes.</td>
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<tr>
<td>CLSC 6300</td>
<td>Scientific Grant Review Process: GCRC Proposals</td>
<td>1.0 cr.</td>
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<td>Dr. R. Eckel, Dr. R. Sokol - 303-399-8020 x 3716. Prereq: BIOS 6601 or BIOS 6612 and CLSC 7500.</td>
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<td></td>
<td>Intended for second-year masters students. Students will understand and participate in the process of scientific review of human subject research protocols submitted to the University of Colorado at Denver and Health Sciences Center’s GCRCs (both Adult and Pediatric GCRCs).</td>
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<tr>
<td>CLSC 6500</td>
<td>Introduction to Pediatric Research</td>
<td>1.0 cr.</td>
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<td></td>
<td>Dr. L. Shroyer, Dr. C. Battaglia, - 303-399-8020 x 3716. Prereq: Graduate degree in clinical science or consent of instructor.</td>
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<td>An introduction is provided for the general field of clinical science with a focus on topics relevant to the field of pediatrics. Designed for individuals who are interested in learning the fundamentals of how to prepare a scientific research proposal.</td>
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<tr>
<td>CLSC 6501</td>
<td>Introduction to Adult Medicine Research</td>
<td>1.0 cr.</td>
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<td>Dr. L. Shroyer, Dr. C. Battaglia, - 303-399-8020 x 3716. Prereq: Graduate degree in clinical science or consent of instructor.</td>
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<td>An introduction is provided for the general field of clinical science with a focus on topics relevant to the field of adult medicine. Designed for individuals who are interested in learning the fundamentals of how to prepare a scientific research proposal.</td>
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<tr>
<td>CLSC 6502</td>
<td>Clinical Research Training Program Intensive, Part 1</td>
<td>4.0 cr.</td>
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<td>Dr. L. Shroyer - 303-399-8020 x 3716. Prereq: Graduate degree in clinical science or PRMD 6603 or consent of instructor.</td>
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<td>CTRP Intensive.</td>
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<tr>
<td>CLSC 6503</td>
<td>Clinical Research Training Program Intensive, Part 2</td>
<td>4.0 cr.</td>
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<td>Dr. L. Shroyer - 303-399-8020 x 3716. Prereq: CLSC 6502, CTRP Intensive - Part 2.</td>
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<tr>
<td>CLSC 6550</td>
<td>Applications of Biostatistics Clinical Research Questions</td>
<td>1.0 cr.</td>
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<td>Dr. M. O'Brien - 303-399-8020 x 3716. Prereq: Graduate degree in clinical science or PRMD 6603 or consent of instructor.</td>
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<td>An introduction to allow clinician-scientists to be critical consumers of the medical literature by improving their ability to discuss statistical issues about their own research and the research of others. A familiarity will be gained with commonly used statistical methods and terms.</td>
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<td>CLSC 6591</td>
<td>Clinical Research Training Program Intensive, Parts 1 &amp; 2</td>
<td>8 cr.</td>
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<td>(Adult - PhD, MSCS, and Certificate)</td>
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<td>Dr. L. Shroyer - 303-399-8020 x 3716. Prereq: Graduate degree in clinical science or PRMD 6603 or consent of instructor.</td>
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<td>Grades are assigned only after part 2 is completed. CLSC 6591 should be taken by Adult - PHD, MSCS, and Certificate students.</td>
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<td>CLSC 6592</td>
<td>Clinical Research Training Program Intensive, Parts 1 &amp; 2</td>
<td>8 cr.</td>
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<td>(Pediatric – PhD, MSCS, and Certificate)</td>
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<td>Dr. L. Shroyer - 303-399-8020 x 3716. Prereq: CLSC 6502, CTRP Intensive - Part 2.</td>
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<td>(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.</td>
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<tr>
<td>CLSC 6593</td>
<td>Clinical Research Training Program Intensive, Parts 1 &amp; 2</td>
<td>8 cr.</td>
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<td>Dr. L. Shroyer - 303-399-8020 x 3716. Prereq: Graduate degree in clinical science or PRMD 6603 or consent of instructor.</td>
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<td>(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 - CTRP students.</td>
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<td>CLSC 6594</td>
<td>Clinical Research Training Program Intensive, Parts 1 &amp; 2</td>
<td>8 cr.</td>
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<td>(Pediatric - CTRP)</td>
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<td>Dr. L. Shroyer - 303-399-8020 x 3716. Prereq: Graduate degree in clinical science or PRMD 6603 or consent of instructor.</td>
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<td>(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 - CTRP students.</td>
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<td>Course Code</td>
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<tr>
<td>CLSC 6650</td>
<td>Guided Research Tutorial – General</td>
<td>3 cr.</td>
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<tr>
<td>CLSC 6651</td>
<td>Guided Research Tutorial Pediatric GCRC Research</td>
<td>2.0 cr.</td>
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<tr>
<td>CLSC 6652</td>
<td>Guided Research Tutorial – Adult GCRC Research</td>
<td>2.0 cr.</td>
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<tr>
<td>CLSC 6653</td>
<td>Key Concepts in Neuro-developmental Disabilities 1</td>
<td>2.0 cr.</td>
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<tr>
<td>CLSC 6654</td>
<td>Key Concepts in Neuro-developmental Disabilities 2</td>
<td>2.0 cr.</td>
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<tr>
<td>CLSC 6655</td>
<td>Guided Research Tutorial – Proteomics</td>
<td>1.0 cr.</td>
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<tr>
<td>CLSC 6657</td>
<td>Cultural Factors in Healthcare</td>
<td>1.0 cr.</td>
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<tr>
<td>CLSC 6658</td>
<td>An Interdisciplinary Approach to Promoting Early Parent Child Relationships Part I/ Theory</td>
<td>2.0 cr.</td>
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<tr>
<td>CLSC 6659</td>
<td>An Interdisciplinary Approach to Promoting Early Parent Child Relationships Part 2/ Measurement</td>
<td>3.0 cr.</td>
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<tr>
<td>CLSC 6661</td>
<td>Leadership Dialogues 1</td>
<td>1.0 cr.</td>
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<tr>
<td>CLSC 6662</td>
<td>Leadership Dialogues 2</td>
<td>1.0 cr.</td>
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<tr>
<td>CLSC 6666</td>
<td>Trans-disciplinary Model Early Intervention Svc. Delivery</td>
<td>3.0 cr.</td>
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### Research in Clinical Sciences - Master Students

**CLSC 6699**  
Research in Clinical Sciences - Master Students  
Variable cr.  
Dr. L. Shroyer - 303-399-8020 x3716. Prereq: Consent of instructor.  
This research class is in the clinical science field that is planned to have direct relevance to a masters thesis project. Class work may also be associated with preparing for the written component of the master’s final exam.

### Evidence Based Medicine/Health Care

**CLSC 6700**  
Evidence Based Medicine/Health Care  
2.0 cr.  
Dr. B. Brimhall, Dr. L. Shroyer, L. Traditi, M.L.S. - 303-399-8020 x 3716. Prereq: Graduate degree in clinical science or consent of instructor.  
This course is introductory to evidence-based medicine and health care. Students will learn how to critically appraise the literature, evaluate diagnostic test performance, evaluate alternative therapies, use/design clinical pathways, and implement evidenced based medicine findings in their own clinical practice settings.

### Introduction to Health Information Technology

**CLSC 6800**  
Introduction to Health Information Technology  
3.0 cr.  
Dr. D. Lezotte - 303-315-6783. Crosslisted: CU Denver HLTH 6071 & BIOS 6683. Prereq: Graduate degree in clinical science field or consent of instructor.  
This course is intended as an overview to the dynamic environment of healthcare informatics and to prepare healthcare professionals to better utilize and manage emerging communication technologies. A brief introduction to e-health, telehealth, electronic medical records, telecommunications, and bio-informatics is provided.

### Fundamentals of Health Information Technology Management

**CLSC 6820**  
Fundamentals of Health Information Technology Management  
3.0 cr.  
Dr. D. Lezotte, D. Jacobs - 303-399-8020 x 3716. Crosslisted: CU Denver HLTH 6072. Prereq: Graduate degree in clinical science field or consent of instructor.  
This course will provide an introduction to the 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.

### Practicum in Developmental Disabilities

**CLSC 6830**  
Practicum in Developmental Disabilities  
3.0 cr.  
Dr. C. Robinson - 303-864-5267. Prereq: Graduate degree in clinical science or consent of instructor.  
Practicum in developmental disabilities individually designed to give graduate students and post-graduates observational experiences in clinical, teaching, or research service settings and systems for persons with developmental disabilities of all ages.

### Practicum in Developmental Disabilities 2

**CLSC 6831**  
Practicum in Developmental Disabilities 2  
3.0 cr.  
Dr. C. Robinson - 303-864-5267. Prereq: Instructor consent and/or 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.

### Introduction to Telehealth/Telemedicine

**CLSC 6890**  
Introduction to Telehealth/Telemedicine  
2.0 cr.  
Dr. J. Grigsby - 303-399-8020 x 3716. Prereq: Graduate degree in clinical science or consent of instructor.  
This course will examine different Telemedicine/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.

### Masters Thesis

**CLSC 6950**  
Masters Thesis  
Variable cr.  
Faculty - 303-399-8020 x 3716. Prereq: Consent of instructor.  
Masters thesis work in clinical science.

### Designing and Implementing Clinical Disease Mgt. Programs

**CLSC 7050**  
Designing and Implementing Clinical Disease Mgt. Programs  
2.0 cr.  
Dr. D. Tinkelman - 303-399-8020 x 3716. Prereq: BIOS 6601 or BIOS 6612 are suggested.  
This course is designed to introduce participants to the new and broadening field of disease management. Students will learn about the positive and negative aspects of varied approaches in the field. The economic and clinical aspects of disease management will be discussed.

### Grant Writing 1

**CLSC 7101**  
Grant Writing 1  
1.0 cr.  
Dr. J. Crapo, Dr. L. Shroyer - 303-399-8020 x 3716. Prereq: BIOS 6601, CLSC 7150, BIOS 7151, PRMD 6626, BIOS 6648.  
This first grant writing course will prepare students for subsequent grant submission. Strategies for preparation (including hypothesis generation, experimental design, statistical considerations, and potential problems) will be discussed. A grant submission will normally occur before a grade is assigned.

### Grant Writing 2

**CLSC 7102**  
Grant Writing 2  
1.0 cr.  
Dr. J. Crapo, Dr. L. Shroyer - 303-399-8020 x 3716. Prereq: CLSC 7101.  
This course prepares students for subsequent grant submission. Strategies for preparation (including hypothesis generation, experimental design, statistical considerations, and potential problems) will be discussed. At the end of the course, a KO8, R23, or equivalent national grant application will be completed for submission. A grant submission will normally occur before a grade is assigned.
CLSC 7150 Ethics and Regulation in Human Subjects Review 1.0 cr.
Dr. A. Prochazka, Dr. H. Milgrom, Dr.L. Shroyer - 303-399-8020 x 3716. Prereq: Graduate degree in clinical science or consent of instructor.
This course will provide an overview of the field of ethics in clinical research and is designed for students who will be conducting research involving human subjects. Attendance at IRB sessions for CLSC Ph.D. and certificate students enrolled is required.

CLSC 7151 Lectures in Ethics and Regulation in Human Subjects Review 1.0 cr.
Dr. A. Prochazka, Dr.H. Milgrom, Dr. L. Shroyer - 303-399-8020 x 3716. Crosslisted: PHHC 7339. Prereq: Graduate degree in clinical science or consent of instructor.
This course provides an overview of the field of ethics in clinical research and is designed for non-clinical science degree and certificate students and 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. Prochazka, Dr. L. Shroyer, Dr. M. Yarborough - 303-399-8020 x 3716. Prereq: CLSC 7150 or CLSC 7151, COMIRB 101, PHHC 7339 or instructor consent.
This course will provide an in-depth understanding of advanced bioethics - where the frontiers of 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 - 303-399-8020 x 3716. Prereq: CLSC 7150 or CLSC 7151 or CLSC 7155.
This course will examine the philosophical basis for current research ethics practices, addresses current ethical issues and controversies in biomedical research, and provides students with knowledge and analytical skills to address the ethical dimensions of biomedical research.

CLSC 7200 Clinical Outcomes Assessment 2.0 cr.
Dr. L. Shroyer, Dr. C. Battaglia - 303-399-8020 x 3716. Prereq: A graduate degree in a clinical science field or Consent of instructor.
This course provides an overview of the field of clinical outcomes assessment and prepares students to identify patient risk factors and to select outcomes appropriate to use in a given situation based on appraisal of literature regarding the research project's objectives.

CLSC 7300 Scientific Grant Review Process: GCRC Proposals 1.0 cr.
Dr. R. Eckel, Dr. R. Sokol - 303-399-8020 x 3716. Prereq: BIOS 6601, BIOS 6612 and CLSC 7500.
Intended for second-year Ph.D. students. Students will understand and participate in the process of scientific review of human subject research protocols submitted to the UCDHSC 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, Dr. P. MacLean - 303-399-8020 x 3716. Prereqs: CLSC 7150, BIOS 7151, CLSC 6500, CLSC 6501, PRMD 6626, BIOS 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. T. Henthorn - 303-399-8020 x 3716. Prereq: BIOS 6601, BIOS 6612 and CLSC 7500.
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, Dr. J. Tentler - 303-399-8020 x 3716. Prereq: Graduate degree in clinical science or consent of instructor.
Designed to teach clinical investigators “hands-on” approaches to basic molecular and cellular biology techniques. Weekly special topics lectures will cover cutting edge technologies and their clinical application of techniques.

CLSC 7650 Guided Research Tutorial - General 3.0 cr.
Dr. L. Shroyer - 303-399-8020 x 3716. Prereq: Consent of instructor.
Students perform research projects during rotations under the direction of a mentor. Research work in clinical science.

CLSC 7651 Guided Research Tutorial, Pediatric GCRC 2 cr.
Dr. F. Accurso - 303-399-8020 x 3716. Prereq: CLSC 7500 and CLSC 7300.
Students perform Pediatric GCRC research projects during rotations under the direction of Pediatric GCRC faculty member(s).
GENETIC COUNSELING

*Students who take these courses must have matriculated into the MS Genetic Counseling Program.

GENC 6101 Psychosocial Aspects of Genetic Counseling 1
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. The first semester focuses on human and family development, pregnancy and perinatal loss, and grief theory.

GENC 6102 Psychosocial Aspects of Genetic Counseling 2
C. Heinisch, M.S.W. – 303-861-6839. Prereq: GENC 6101. Coreqs: GENC 6105, GENC 6110. 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. The second semester focuses on family systems, crisis theory and intervention, grief and coping responses, and students’ integration of psychosocial approaches into their genetic counseling practice.

GENC 6105 Basic Interviewing Skills
M. Linden, M.S., S. Linn, M.S. – 303-861-6839. Coreqs: GENC 6101, GENC 6110. This course covers the 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 the course.

GENC 6110 Topics in Medical Genetics 1
C. Walton, M.S. – 303-861-6839. 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 2

GENC 6120 Clinical Cytogenetics and Molecular Genetics
Dr. L. McGavran, Dr. E. Spector – 303-861-6839. Prereq: Consent of instructor. This course provides integrated instruction regarding human cytogenetic and molecular genetic principles, techniques, and diagnostic testing approaches used in clinical evaluation and risk.

GENC 6121 Laboratory in Clinical Cytogenetics and Molecular Genetics
Dr. L. McGavran, Dr. E. Spector – 303-861-6839. Prereq: GENC 6120 or consent of instructor. This course provides an 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, and discussion of illustrative cases.
This course requires students to apply theories and principles of cytogenetics and molecular genetics to analysis of cases that present in the daily operations of diagnostic laboratories and formal critique of current research literature. Additionally, students present a formal seminar integrating cytogenetic and molecular genetic principles.

GENC 6100 Cancer Genetics and Genetic Counseling 2.0 cr.
A course in the provision of 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 and support, and specific genetic counseling approaches.

GENC 6102 Applied Hereditary Cancer Clinic 1.0 cr.
C. Walton, M.S. - 303-861-6839. Prereq: GENC 6110 and GENC 6120. This course provides a systematic review of major metabolic disorders, including their clinical phenotypes, diagnosis, and management. Physiological and laboratory testing principles important to the understanding of these disorders will be reviewed. Psychosocial impact of metabolic disorders and genetic counseling approaches will be discussed.

GENC 6103 Applied Adult Medical Genetics Clinic 1.0 cr.
C. Walton, M.S. - 303-861-6839. Prereq: GENC 6110 and GENC 6120. This course covers the genetic counseling of patients 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 and support, and specific genetic counseling approaches.

GENC 6104 Human Inborn Errors of Metabolism 2.0 cr.
Dr. J. VanHove, Dr. J. Thomas, C. Freehauf, M.S. - 303-861-6395. Prereq: Consent of instructor.
This course provides a systematic review of major metabolic disorders, including their clinical phenotypes, diagnosis, and management. Physiological and laboratory testing principles important to the understanding of these disorders will be reviewed. Psychosocial impact of metabolic disorders and genetic counseling approaches will be discussed.

GENC 6105 Congenital Malformations and Disorders of the Newborn 1.0 cr.
C. Walton, M.S. - 303-861-6839. 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 6106 Risk Calculation in Genetic Counseling 1.0 cr.
C. Walton, M.S. - 303-861-6839. Prereq: GENC 6110 and GENC 6120. This course covers the risk calculation principles used by genetic counselors in clinical practice.

GENC 6107 Applied General Genetics Clinic 3.0 cr.
C. Walton, M.S. - 303-861-6839. Prereq: GENC 6101, GENC 6105, GENC 6110. This is a clinical rotation for genetic counseling M.S. students through a general genetics clinic serving a variety of specialty/multidisciplinary clinics serving patients with various genetic conditions.

GENC 6108 Applied Prenatal Genetics Clinic 3.0 cr.
C. Walton, M.S. - 303-861-6839. Prereq: GENC 6101, GENC 6105, GENC 6110. This is a clinical rotation for genetic counseling students through a prenatal diagnosis and genetics clinic. Students will learn and practice history taking, risk assessment, patient education and genetic counseling, and case management, as well as observe prenatal diagnosis and ART procedures.

GENC 6109 Applied Metabolic Genetics Clinic 3.0 cr.
C. Walton, M.S. - 303-861-6839. Prereq: GENC 6101, GENC 6105, GENC 6110. 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 and nutritional management of specific conditions, and follow-up of positive newborn metabolic screening results.

GENC 6110 Applied Regional & Specialties Genetics Clinics Variable cr.
C. Walton, M.S. - 303-861-6839. Prereq: GENC 6101, GENC 6105, GENC 6110. 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 6111 Applied Hereditary Cancer Clinic 1.0 cr.
C. Walton, M.S. - 303-861-6839. Prereq: GENC 6101, GENC 6102, GENC 6110. 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 6112 Applied Adult Medical Genetics Clinic 1.0 cr.
C. Walton, M.S. - 303-861-6839. Prereq: GENC 6101, GENC 6105, GENC 6110. 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 6113 Applied Medical Genetics Clinic Variable cr.
C. Walton, M.S. - 303-861-6839. Prereq: GENC 6101, GENC 6105, GENC 6110. 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 6114 Masters Thesis Variable cr.
*Students who take these courses must have completed first year of the MS Genetic Counseling program

**GENC 6201  Advanced Psychosocial Genetic Counseling**  2.0 cr.
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 1**  2.0 cr.
First course in a two-course sequence regarding professional practice issues of master's level genetic counselors. The first 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 2**  2.0 cr.
Second course in a two course sequence regarding professional practice issues of master's level genetic counselors. The second semester course focuses on disability issues, cultural competency, public health genetics, research methods in genetic counseling and professional roles.

### HUMAN MEDICAL GENETIC

**HMGP 7600  Survey of Human Genetics**  2.0 cr.
Dr. R. Spritz - 303-724-3101.
Survey of human genetics, including Mendelian and other forms 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 - 303-724-3101.  Prereq: Graduate standing.
Two–semester course based on weekly HMGP seminar series. Students meet with each speaker and discuss seminar or related topics and arranged readings.

**HMGP 7620  Genomics**  2.0 cr.
Dr. J. Sikela - 303-724-3101.
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.

**HMGP 7630  Independent Study in Human Medical Genetics**  Variable cr.
Faculty - 303-724-3101.
Independent study is intended to permit students to carry out directed reading and discussion with a specific faculty member to fill a specific need and to gain a defined expertise with a faculty member other than their thesis advisor. Consent of the faculty member offering the independent study and the program director are required.

**HMGP 7650  Research in Human Medical Genetics**  Variable cr.
Faculty - 303-724-3101.  Prereq: Consent of instructor.
Research work in human medical genetics.

**HMGP 8990  Doctoral Thesis**  Variable cr.
Faculty - 303-724-3101.
Doctoral thesis work in human medical genetics.

### IMMUNOLOGY

**IMMU 7602  Special Topics in Tumor Immunology**  1.0 cr.
Dr. J. Slansky - 303-398-1305.  Prereq: IMMU 7662.
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.

**IMMU 7603  Special Topics in Clinical Immunology**  1.0 cr.
Dr. Rafeul Alam - 303-398-1305.  Prereq: IMMU 7662, IMMU 7602.
The course covers selected topics (8 in all) that encompass a wide range of topics in clinical immunology and will provide insight into immunologically – mediated human diseases and the prospect of new immuno-therapies. The format will include a presentation by the lecturer and a student presentation and class participation.
**IMMU 7604  Special Topics in Signal Transduction in the Immune System**  
1.0 cr.  
Dr. D. Cambier - 303-398-1305. Prereq: IMMU 7662, IMMU 7602.  
The course covers selected topics (8 in all) that encompass a wide range of topics in signal transduction through receptors important in the immune system. The format will include a presentation by the lecturer and a student presentation and class participation.

**IMMU 7607  Science as a Profession**  
1.0 cr.  
Dr. P. Marrack - 303-398-1305.  
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.

**IMMU 7630  Overview of Immunology**  
2.0 cr.  
Dr. J.J. Cohen - 303-315-8898.  
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.

**IMMU 7650  Research in Immunology**  
Variable cr.  
Faculty - 303-398-1310. Prereq: Consent of instructor.  
Research work in immunology.

**IMMU 7662  Immunology**  
6.0 cr.  
Dr. D. Riches, Dr. R. Kedl - 303-398-1305.  
The course includes the basic principles of the immune system as well as emphasis on the innate response, the adaptive response and the molecular and cellular basis of immune specificity.

**IMMU 8990  Doctoral Thesis**  
Variable cr.  
Faculty – 303-398-1310. Prereq: Consent of instructor  
Doctoral thesis work in immunology.

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**INTERDEPARTMENTAL**

**IDPT 5600  Topics in Biomedical Science and Research**  
4.0 cr.  
Dr. S. Flores - 303-315-0055.  
Research internship for undergraduate fellows in graduate experiences for multicultural scientists (GEMS) program.

**IDPT 7200  Scientific Writing for Doctoral Students**  
2.0 cr.  
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**  
3.0 cr.  
Dr. K. Newell - UCCS – 719-262-3256.  
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**  
1.0 cr.  
Dr. A. Ribera - 303-315-8986.  
Designed to expose MSTP and physician scientist students to research programs and opportunities in biomedical sciences.

**IDPT 7646  Tissue Biology and Disease Mechanism**  
3.0 cr.  
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**  
Variable cr.  
Faculty - 303-724-3742. Prereq: Consent of instructor.  
Research work for students in the biomedical sciences Ph.D. program.

**IDPT 7651  Summer Research Rotation**  
Variable cr.  
Dr. A. Gutierrez-Hartmann - 303-315-8986. Prereq: Consent of instructor.  
This course is an 8-10 week laboratory rotation experience in an MSTP training laboratory.

**IDPT 7801  Biomedical Sciences Core Course 1**  
3.3 cr.  
Dr. R. Murphy – 724-3352.  
Unified presentation of fundamental principles of biochemistry, cell biology, genetics, and molecular biology.
IDPT 7802  Biomedical Sciences Core Course 2  3.3 cr.
Dr. J. Hagman – 303-398-1398.
Unified presentation of fundamental principles of biochemistry, cell biology, genetics, and molecular biology.

IDPT 7803  Biomedical Sciences Core Course 3  3.4 cr.
Dr. K. Howell - 303-724-3468.
Unified presentation of fundamental principles of biochemistry, cell biology, genetics, and molecular biology.

IDPT 7805  Case Studies: Molecules to Medicine  5.0 cr.
This course is targeted for first year MSTP and Physician-Scientist students. Clinical cases will be presented and discussed by faculty and students to provide a clinical context for the basic science principles taught in the graduate core course (IDPT xx).

MICROBIOLOGY

MICB 7650  Research in Microbiology  Variable cr.
Faculty - 303-724-4230. Prereq: Consent of instructor.
Research work in microbiology.

MICB 7701  Molecular Virology and Pathogenesis  3.0 cr.
Dr. J. Schaack - 303-724-4220. Prereq: IDPT 7803 or consent of instructor.
Molecular principles of viral pathogenesis. Topics include virus-host interactions, infectious diseases, cancer and virus replication.

MICB 7702  Molecular Mechanisms of Bacterial Disease  2.0 cr.
Dr. R. Gill - 303-724-4230. 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. Topics will include attachment and entry of bacteria into host cells, bacterial toxins, avoidance of the immune response, and survival of bacteria within macrophages.

MICB 7703  Contemporary Topics in Molecular Bacteriology  1.0 cr.
Dr. R. Gill - 303-724-4230. Prereq: IDPT 7803 or consent of instructor.
A lecture and discussion course. Topics may include: biochemical and genetic control of the bacterial cell cycle, growth rate and cellular differentiation signal transduction and responses to environmental stimuli, genetic regulation of microbial pathogenesis.

MICB 7704  Host Response to Infectious Disease  2.0 cr.
Dr. L. VanDyk - 303-724-4224. 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.

MICB 7705  Medical Microbiology  4.0 cr.
Dr. R. Gill - 303-724-4230. Prereq: Consent of instructor.
This lecture course introduces students to certain fundamental features of microorganisms and their ability to cause disease. Principal lecture topics include: molecular and cellular aspects of bacterial structure, physiology and genetics; specific properties of pathogenic bacteria, fungi and parasites, and the pathogenic mechanisms associated with these organisms; properties of viruses, their structure, classification and reproduction, and the diseases caused by viral agents.

MICB 8990  Doctoral Thesis  Variable cr.
Faculty - 303-724-4230.
Doctoral thesis work in microbiology.

MOLECULAR BIOLOGY

MOLB 7616  Topics in Molecular and Cellular Biology  1.0 cr.
Dr. L Niswander - 303-724-3245. 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  Variable cr.
Dr. J. Kieft - 303-724-3257. Prereq: Consent of the instructor.
Research work in molecular biology.
MOLB 7661  Molecular Biology Seminar  
Dr. J. Kieft - 303-724-3257.  
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. R. Davis - 303-724-3226.  Prereq: IDPT 7801, IDPT 7802, IDPT 7803.  
This course is intended to teach graduate students how to critically evaluate the scientific literature. The course will be divided into 4 blocks, and topics will include nucleic acid, chromatin structure, DNA replication, RNA transcription, RNA processing, cell cycle control, and genetics of model organisms. Papers are chosen by instructors, presentations are by students.

MOLB 8990  Doctoral Thesis in Molecular Biology  
Dr. J. Kieft - 303-724-3257.  
Doctoral thesis work in molecular biology.

**NEUROSCIENCE**

NRSC 7600  Cellular & Molecular Neurobiology  
Dr. N. Schoppa - 303-724-4523.  
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 7610  Fundamentals of Neurobiology  
Dr. T. Finger - 303-724-3120.  Prereq: NRSC 7600 or consent of instructor.  
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  
Dr. S. Leonard - 303-724-3120.  Prereq: IDPT 7802 or BMGN 5000 or CSBI 5001.  
This elective, provides a survey of the current clinical and molecular aspects of human neuro-psychiatric disorders. Both movement disorders and DSMIV diagnoses will be covered. Contact Course Director for a list of topics.

NRSC 7615  Developmental Neurobiology  
Dr. A. Ribera - 303-724-3120.  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  
Dr. D. Restrepo - 303-724-3405.  Prereq: Consent of instructor.  
Research work in neuroscience.

NRSC 7661  Grant Proposal Writing Workshop  
Dr. R. Levinson - 303-724-3120.  Prereq: NRSC 7610 and consent of instructor.  
This course will be a practical workshop in grant-writing culminating in a mock review panel including the course participants. Students will examine various proposal types and formats, and then write their own proposal in the format of an NRSA fellowship application. All proposals will be reviewed and critiqued at the end of the semester. Three day intensive. Meeting dates decided at organizational meeting.

NRSC 7670  Advanced Topics in Neuroscience  
Dr. D. Restrepo - 303-724-3405.  Prereq: NRSC 7600 and consent of instructor.  
The course will consist of discussion of manuscripts relevant to a specific topic in neuroscience.

NRSC 8990  Doctoral Thesis  
Dr. D. Restrepo - 303-724-3405.  
Doctoral thesis work in neuroscience.

**PHARMACOLOGY**

PHCL 7560  Drug Metabolism & Pharmacogenetics 1  
Dr. V. Vassiliou - 303-315-6153.  Crosslisted: TXCL 7560.  
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. The interrelationship between genes and drug metabolism along with studies on polymorphic differences in genes encoding drug-metabolizing enzymes will also be discussed.
### PHCL 7561  Drug Metabolism and Pharmacogenetics 2  2.0 cr.
Dr. D. Petersen - 303-315-6159. Crosslisted TXCL 7561.

This interdisciplinary course is designed to provide the student with current information on the basic concepts of xenobiotic and drug metabolism pathways. Major emphasis is placed on the relationship of inter-individual differences in the metabolism of therapeutic agents to pharmacologic response and toxicity.

### PHCL 7600  Frontiers in Pharmacology  1.0 cr.
Dr. T. Kutateladze - 303-724-3593.

This course introduces students to cutting-edge pharmacology research and to the range of research opportunities available within the pharmacology training program. A series of presentations of the faculty members of the pharmacology department will focus on cellular signaling, molecular mechanisms of drug actions and structure-based drug design.

### PHCL 7605  Ethics in Research  1.0 cr.
Dr. J. Stevens - 303-724-3385.

An interactive course designed to inform and sensitize students, trainees and faculty to the problems of fraud, misconduct and unethical practices in scientific research.

### PHCL 7606  Receptors and Cell Signaling  3.0 cr.

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. L. Hines, Dr. D. Osguthorpe - 303-724-3385.

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 - 303-315-6873. Prereq: IDPT 7801, IDPT 7803.

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 1  4.0 cr.
Dr. L. Hunter - 303-315-6873. Crosslisted: BIOI 7710. Prereq: 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 2  4.0 cr.

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 - 303-315-2925.

Lectures and homework on ionic mechanisms underlying cellular excitability, especially in the central nervous system. Descriptive mathematics, pharmacology and molecular biology will be stressed. Course to utilize major textbooks as a course outline. An introductory application to real-life problems using the NEURON simulation environment will be taught.

### PHCL 7620  Principles of Pharmacology  6.0 cr.
Faculty - 303-724-3385. Prereq: IDPT 7801, IDPT 7802, IDPT 7803.

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 7622  Graduate Pharmacology for MSTP Students  1.0 cr.
Faculty - 303-724-3385. Prereq: IDPT 7801, IDPT 7802, IDPT 7803, PHCL 6000.

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.
Faculty - 303-724-3675. Prereq: Consent of instructor.

Research work in pharmacology.

### PHCL 8990  Doctoral Thesis  Variable cr.
Faculty - 303-724-3675.

Doctoral thesis work in pharmacology.
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
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<td>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.</td>
</tr>
<tr>
<td>PHSC 7325</td>
<td>Pharmaceutical Development: Evaluating the External Environment</td>
<td>2.0 cr.</td>
<td>Dr. R. Valuck - 303-315-3841.</td>
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<td>An overview of the pharmaceutical industry in the United States and the environment (context) in which it exists. Material to be covered will include: epidemiology and classification of disease; trends in health care costs and expenditures; organization and financing of health care; characteristics of the pharmaceutical industry; drug product marketing and an introduction to pharmaceutical outcomes and economics.</td>
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<td>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 and clinical toxicology, dosage forms, and clinical trials design. Preparation for careers in the pharmaceutical industry and drug development process.</td>
</tr>
<tr>
<td>PHSC 7350</td>
<td>Proteins</td>
<td>3.0 cr.</td>
<td>Dr. R. Hodges - 303-724-3268. Crosslisted BMST 7350.</td>
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<td>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 1</td>
<td>2.0 cr.</td>
<td>Dr. R. Hodges - 303-724-3268. Crosslisted BMST 7354.</td>
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<td>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>
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<tr>
<td>PHSC 7400</td>
<td>Ethical Issues in Toxicology &amp; Pharmaceutical Sciences</td>
<td>1.0 cr.</td>
<td>Dr. R. Agarwal - 303-315-1381. Crosslisted: TXCL 7400.</td>
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<td>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>
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<td>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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<tr>
<td>PHSC 7530</td>
<td>Cancer: Experimental and Medical Aspects</td>
<td>2.0 cr.</td>
<td>Dr. A. Malkinson - 303-315-4579.</td>
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<td>Prereq: Consent of instructor. This is an interactive seminar course on recent topics in cancer biology. Topics include the biochemical and 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 and epidemiology, and chemotherapy.</td>
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<tr>
<td>PHSC 7568</td>
<td>Seminar in the Pharmaceutical Sciences</td>
<td>Variable cr.</td>
<td>Faculty - 303-315-0565.</td>
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<td>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.</td>
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<tr>
<td>PHSC 7650</td>
<td>Research Rotation Pharmaceutical Sciences</td>
<td>Variable cr.</td>
<td>Faculty - 303-315-0358. Crosslisted: Consent of instructor.</td>
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<td>Research work in pharmaceutical sciences.</td>
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<td>This course covers the role of bioengineering in the 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 and formulation of macromolecules and production of drug delivery systems.</td>
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<td>Course Code</td>
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<tr>
<td>PHSC 7652</td>
<td>Principles of Medicinal Chemistry</td>
<td>2.0 cr.</td>
<td>Dr. Ruth</td>
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<td>- 303-315-7569</td>
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<tr>
<td>PHSC 7653</td>
<td>Protein Formulation</td>
<td>2.0 cr.</td>
<td>Dr. J. Carpenter</td>
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<tr>
<td>PHSC 7654</td>
<td>Advanced Topics in Pharmacology</td>
<td>Variable cr.</td>
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<tr>
<td>PHSC 7660</td>
<td>Membrane Dynamics</td>
<td>2.0 cr.</td>
<td>Dr. T. Anchordoquy</td>
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<tr>
<td>PHSC 7831</td>
<td>Case Studies in Biotechnology</td>
<td>2.0 cr.</td>
<td>Dr. D. Kpmpala</td>
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**PHYSIOLOGY**

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<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Instructor</th>
<th>Prerequisite(s)</th>
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<tbody>
<tr>
<td>PHSL 7650</td>
<td>Research in Physiology and Biophysics</td>
<td>Variable cr.</td>
<td>Faculty</td>
<td>- 303-724-4531.</td>
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<td>Prereq: Consent of instructor.</td>
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<tr>
<td>PHSL 7840</td>
<td>Advanced Topics in Cell Signaling</td>
<td>1.0 cr.</td>
<td>Dr. N. Schoppa</td>
<td>- 303-724-4523.</td>
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<td>Prereq: Consent of instructor.</td>
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<td>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.</td>
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<td>Doctoral thesis work in physiology.</td>
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**PREVENTIVE MEDICINE**

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<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Instructor</th>
<th>Prerequisite(s)</th>
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<tbody>
<tr>
<td>PRMD 6600</td>
<td>Introduction to Public Health</td>
<td>2.0 cr.</td>
<td>Dr. K. Kennedy</td>
<td>- 303-315-8359.</td>
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<td>This course examines the historical and conceptual basis 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.</td>
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<tr>
<td>PRMD 6602</td>
<td>Healthy People 2010</td>
<td>1.0 cr.</td>
<td>Dr. C. DiGuiseppi</td>
<td>- 303-315-8359.</td>
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<td>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.</td>
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### PRMD 6603 Health Care Systems

Dr. P. Barton – 303-315-8359

This is the first of a two-semester sequence designed to introduce students to the U.S. health care system from an organizational, service delivery, social, and political perspective. Students are introduced to the basic components of the current health care system (personnel, organizations, facilities) and basic economic principles as they are applied to selected aspects of the health care system (financing, insurance, Medicare, Medicaid).

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<th>Course Code</th>
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<th>Term</th>
<th>Credit</th>
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<tbody>
<tr>
<td>PRMD 6603</td>
<td>Health Care Systems</td>
<td>Fall Sem.</td>
<td>2.0 cr.</td>
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</tbody>
</table>

### PRMD 6604 Health Care Economics

Dr. D. Milne – 303-315-8359 Prereq: PRMD 6603

This course is a sequel to PRMD 6603 and focuses 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. Specialized markets, the role of the government in regulating and/or fostering competition, and the significance of health insurance in financing the US health care system are addressed.

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<th>Term</th>
<th>Credit</th>
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<tbody>
<tr>
<td>PRMD 6604</td>
<td>Health Care Economics</td>
<td>Spring Sem.</td>
<td>2.0 cr.</td>
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</table>

### PRMD 6605 Health Policy

J. Glazner – 303-315-8359 Prereq: PRMD 6603

The focus of this course will be the analysis of important U.S. health policy issues, such as access, cost, quality and other timely health policy topics. Analytic concepts, approaches, and frameworks will be used to explore specific significant health policy issues.

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<th>Credit</th>
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<tbody>
<tr>
<td>PRMD 6605</td>
<td>Health Policy</td>
<td>Spring Sem.</td>
<td>2.0 cr.</td>
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</table>

### PRMD 6606 Community Health Practice: Administration Policies and Politics

Faculty – 303-315-8359 Prereq: PRMD 6603 and PRMD 6604 or PRMD 6603 and PRMD 6605

This course is designed to present technical, policy and administrative issues within the context of operational activities of community and public health agencies. An introduction to basic management skills is included. Each student will participate in a community agency problem solving or needs assessment activity. The course provides each student with a practicum experience in a community health agency in the Denver area.

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<th>Course Code</th>
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<th>Term</th>
<th>Credit</th>
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<tbody>
<tr>
<td>PRMD 6606</td>
<td>Community Health Practice: Administration Policies and Politics</td>
<td>Fall/Spring Sem.</td>
<td>3.0 cr.</td>
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</table>

### PRMD 6607 Current Legal Issues in Health Care

D. Matthew – 303-315-8359

This elective will explore American health care policy. We will begin with an overview of the current public/private system of health care in the U.S., with some consideration of the historical developments that have led to our current system. By way of comparison, we will briefly consider alternative approaches in the Canadian system and the UK, just to understand the concept of “socialized medicine”. Next we will consider the difficult issues raised by our system. Issues of unequal access, double digit cost inflation and variable quality will occupy our discussion. 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.

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<th>Term</th>
<th>Credit</th>
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<tbody>
<tr>
<td>PRMD 6607</td>
<td>Current Legal Issues in Health Care</td>
<td>Spring Sem.</td>
<td>2.0 cr.</td>
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</table>

### PRMD 6608 Ethical and Legal Issues in Public Health, Health Policy, Epidemiology

Dr. J. Glover – 303-315-8359

This course will explore the ethical and legal dimensions of various topics of concern in the areas of public health, health policy, and epidemiology. The following are some of the topics which will be covered: health care reform and medical indigence, screening and genetic screening, epidemiological research, QUALYS and health outcomes research, public health and individual rights, and public health in developing countries.

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<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Type</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>PRMD 6608</td>
<td>Ethical and Legal Issues in Public Health, Health Policy, Epidemiology</td>
<td>Varied/elective</td>
<td>2.0 cr.</td>
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</tbody>
</table>

### PRMD 6609 Cost Benefit and Effectiveness in Health

Dr. S. Eisert – 303-315-8359

This is an intermediate level course on the theory, methods and application of economic evaluation in the health context. “Economic evaluation” includes cost analysis, cost benefit analysis (CBA), cost effectiveness analysis (CEA), and cost utility analysis (CUA). The learning objectives of this course are (1) to develop an understanding of the theoretical underpinnings of economic evaluation; (2) to learn how to critically examine completed economic evaluations; (3) to learn how different types of economic evaluations are carried out in practice. Students are required to conduct an economic evaluation by collecting data and information related to a health program of interest.

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<tr>
<th>Course Code</th>
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<th>Type</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>PRMD 6609</td>
<td>Cost Benefit and Effectiveness in Health</td>
<td>Varied/elective</td>
<td>3.0 cr.</td>
</tr>
</tbody>
</table>

### PRMD 6610 Social and Community Factors in Health

Dr. J. Swift – 303-315-8359

This course considers the social and community factors affecting health status, and factors related to seeking and providing health care. Cross-cultural concepts of health and disease are reviewed. The measurement of selected social and psychological factors, including demographic, socioeconomic and life style indicators and their use in epidemiological studies are emphasized.

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<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Term</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>PRMD 6610</td>
<td>Social and Community Factors in Health</td>
<td>Spring Sem.</td>
<td>3.0 cr.</td>
</tr>
</tbody>
</table>

### PRMD 6611 Scientific Basis of Health Promotion: Intervention Strategies

Dr. L. Crane – 303-315-8359

The scientific basis for planning behavioral interventions in populations. Changing patterns of health related behaviors during the 20th century will be reviewed in relation to morbidity and mortality data for chronic diseases. These patterns will serve as springboards for the development of a health promotion planning model that requires selection of intervention strategies based on accepted criteria. Major behavioral intervention strategies will be discussed. The course will focus on the actual planning, implementation and evaluation of behavioral intervention programs.

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<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Type</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>PRMD 6611</td>
<td>Scientific Basis of Health Promotion: Intervention Strategies</td>
<td>Varied/elective</td>
<td>2.0 cr.</td>
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<tr>
<td>Course Code</td>
<td>Course Title</td>
<td>Credits</td>
<td>Prerequisites</td>
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<tr>
<td>PRMD 6612</td>
<td>Program Evaluation</td>
<td>2.0 cr.</td>
<td>Varied/elective Prereq: PRMD 6630.</td>
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<tr>
<td></td>
<td>Dr. L. Crane – 303-315-8359</td>
<td></td>
<td>Provides students with an understanding of the role of systematic evaluation in assessing effectiveness of public health programs and policies. Includes theoretical concepts and methodology. Topics to be examined include: needs assessment, process and outcome evaluation, qualitative and 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>Varied/elective Prereq: PRMD 6630 or permission of the instructor.</td>
</tr>
<tr>
<td></td>
<td>Drs. J. Ruttenber and J. Litt - 303-315-8359</td>
<td></td>
<td>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>Varied/elective All Sems.</td>
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<tr>
<td></td>
<td>Dr. K. Mueller – 303-315-8359 Prereq: PRMD 6614 and PRMD 6630</td>
<td></td>
<td>Students are presented with a series of problems, which focus on industries and environmental problems in the 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. Different problems offered each semester.</td>
</tr>
<tr>
<td>PRMD 6617</td>
<td>Introduction to Health Services Research</td>
<td>2.0 cr.</td>
<td>Varied/elective Prereq: PRMD 6603 and 6604 or PRMD 6603 and 6605.</td>
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<td></td>
<td>Dr. P. Barton 303-315-8359 Prereq: PRMD 6603 or PRMD 6605</td>
<td></td>
<td>This course defines the field of inquiry, addresses the types of research questions and data sources appropriate to this research, and surveys the types of measures and methodologies used. Students will prepare a letter of intent for an HSR topic that will be critiqued by another student, will create a personal research agenda, and will have readings and quick internet searches to prepare for each class session.</td>
</tr>
<tr>
<td>PRMD 6619</td>
<td>Perspectives in International Health</td>
<td>2.0 cr.</td>
<td>Varied/elective</td>
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<td></td>
<td>Faculty – 303-315-8359</td>
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<td>A review of a number of health care issues and the ways in which various national health care systems are organized or have evolved to deal with these issues. Several contrasting national health care systems will be reviewed in depth. The role of governmental, multi-governmental, philanthropic, voluntary and industrial organizations in the international health area will be examined. Particular attention is given to primary health care in developing countries.</td>
</tr>
<tr>
<td>PRMD 6620</td>
<td>Questionnaire Design</td>
<td>1.0 cr.</td>
<td>Varied/elective</td>
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<td></td>
<td>Dr. L. Crane – 303-315-8359</td>
<td></td>
<td>This 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>Varied/elective</td>
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<td></td>
<td>Faculty - 303-315-8359</td>
<td></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>
</tr>
<tr>
<td>PRMD 6622</td>
<td>Cancer Prevention and Control</td>
<td>2.0 cr.</td>
<td>Varied/elective</td>
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<td></td>
<td>Dr. T. Byers – 303-315-8359</td>
<td></td>
<td>This course will provide an overview of preventable cancers, epidemiology and contributing factors. Phases of cancer control research and appropriate methodologies will be discussed. Basic principles of intervention development will be reviewed. Psychosocial issues related to cancer will be discussed. Students will research topic related to course.</td>
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<tr>
<td>PRMD 6624</td>
<td>Community Diagnosis</td>
<td>3.0 cr.</td>
<td>Varied/elective</td>
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<td></td>
<td>J. Baxter – 303-315-8359</td>
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<td>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.</td>
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<tr>
<td>PRMD 6625</td>
<td>Methods in Health Services Research</td>
<td>3.0 cr.</td>
<td>Varied/elective</td>
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<td></td>
<td>Drs. A. Beck and D. Magid – 303-315-8359 Prereq: BIOS 6601, 6680, PRMD 6603, 6617, 6626, 6630 and corequisites PRMD 6631.</td>
<td></td>
<td>This course provides an overview of research methods in health services. It covers the topics of risk assessment, cost assessment, access to, utilization and quality of care; outcomes and health status measurement, and health system performance. This class is designed for individuals who have completed the MSPH prerequisites and who have taken or are taking PRMD 6631.</td>
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<td>Course Code</td>
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<tr>
<td>PRMD 6626</td>
<td>Research Methods in Community Health</td>
<td>3.0</td>
<td>Spring Sem.</td>
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<td>Dr. D. Lezotte – 303-315-8359 Prereq: BIOS 6601 and PRMD 6630, BIOS 6680.</td>
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<td></td>
<td>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. Students will gain practical experience through analysis of large data sets available from state agencies.</td>
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<tr>
<td>PRMD 6628</td>
<td>Seminar Series in Preventive Medicine</td>
<td>1.0</td>
<td>Fall/Spring Sem.</td>
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<td></td>
<td>Dr. C. DiGuiseppi – 303-315-8359 Prereq: Permission of the instructor if non-degree student.</td>
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<td></td>
<td>This seminar series is designed to present recent important findings in preventive medicine and 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.</td>
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<tr>
<td>PRMD 6629</td>
<td>Clinical Epidemiology: Studies in Diagnosis, Prognosis and Treatment</td>
<td>1.0</td>
<td>Summer Sem.</td>
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<td>Faculty – 303-315-8359 Prereq: Permission of the instructor if non-degree student.</td>
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<td>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.</td>
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<tr>
<td>PRMD 6630</td>
<td>Epidemiology</td>
<td>4.0</td>
<td>Fall Sem.</td>
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<td>Dr. R. Hamman – 303-315-8359 Prereq: Permission of the instructor if non-degree student.</td>
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<td>Offers an introduction to the 1) approaches and methods used in describing the natural history of disease in the community and for locating clues to the causes of disease, and 2) analytical epidemiology (study design, bias, confounding and measures of excess risk) used in the study of disease etiology and the critical review of the medical literature. Lectures/discussions are supplemented with problem-solving exercises.</td>
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<tr>
<td>PRMD 6631</td>
<td>Analytical Epidemiology</td>
<td>2.0</td>
<td>Fall Sem.</td>
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<td>Dr. J. Hokanson – 303-315-8359 Prereq: PRMD 6630, BIOS 6601.</td>
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<td>This course emphasizes the 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 and interpretation of epidemiologic data.</td>
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<tr>
<td>PRMD 6632</td>
<td>Advanced Epidemiology</td>
<td>2.0</td>
<td>Spring Sem.</td>
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<td>Dr. J. Marshall 303-315-8359 Prereq: PRMD 6630, PRMD 6631, BIOS 6601</td>
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<td>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. Principles and methods related to causal inference, selection of subjects and appropriate comparison groups, measurement of the exposures and outcomes of interest, and estimating the magnitude and likely range of the effect of interest will be emphasized.</td>
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<tr>
<td>PRMD 6635</td>
<td>Epidemiology of Communicable Disease</td>
<td>3.0</td>
<td>Varied/elective</td>
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<td>Dr. C. Nyquist 303-315-8359 Prereq: PRMD 6630.</td>
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<td>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.</td>
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<tr>
<td>PRMD 6636</td>
<td>Chronic Disease Epidemiology</td>
<td>2.0</td>
<td>Varied/elective</td>
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<td>Dr. D. Dabelea 303-315-8359 Prereq: PRMD 6630</td>
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<td>The major chronic diseases of Western countries will be reviewed including heart disease, cancer, stroke, diabetes, neurological diseases, and selected other conditions. Basic science topics relevant to diseases discussed are included. Factual information about epidemiology of these diseases will be provided with the discussion of methodological issues which arise.</td>
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<tr>
<td>PRMD 6637</td>
<td>Injury Epidemiology and Control</td>
<td>2.0</td>
<td>Varied/elective</td>
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<td></td>
<td>D. C. DiGuiseppi -303-315-8359 Prereq: PRMD 6630</td>
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<td>Major causes of injuries in the U.S. will be reviewed. This will include 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 and rehabilitation. Introduction to research methods specific to the study of injuries will also be incorporated into the course.</td>
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<tr>
<td>PRMD 6638</td>
<td>Cardiovascular Epidemiology</td>
<td>1.0</td>
<td>Varied/elective</td>
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<td>Dr. J. Hokanson 303-315-8359 Prereq: PRMD 6630.</td>
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<td>This course provides a practical introduction to the current concepts, research method and unanswered questions in epidemiology of coronary artery disease, stroke and peripheral artery disease. It prepares students for independent work in academic and nonacademic settings in the area of cardiovascular disease surveillance, etiology and outcome research.</td>
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</table>
### PRMD 6639  **Genetic and Molecular Epidemiology**  Varied/elective  2.0 cr.
Dr. J. Norris – 303-315-8359 Prereq: 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.

### PRMD 6643  **The Nuclear West**  Fall Sem.  2.0 cr.
Dr. J. Ruttenber – 303-315-8359.

Drawing on the expertise of the instructors, this interdisciplinary seminar will examine historical nuclear issues in the West from the perspectives of natural science, epidemiology and the news media. The topic for each session will be addressed from a matrix of issues, as described in the following course schedule, although the emphasis will vary depending on the main topic of the day.

### PRMD 6645  **Critical Reading Seminar**  Varied/elective  1.0 cr.
Dr. R. Hamman – 303-315-8359 Prereq: PRMD 6630 & 6626; BIOS 6601.

Through informal reading and discussion of current articles in the medical literature, students will present journal summaries, lead small group discussion of an article, identify potential sources of bias in the design and conduct of published research, and suggest alternate research designs or analyses.

### PRMD 6651  **Research Paper**  All sems.  1 - 4 crs.
Faculty - 303-315-8359 Prerequisites PRMD 6626, 6630, BIOS 6601, 6680.

An independent research project is required of all students as a final demonstration of acquired skills and knowledge. Students have the opportunity to organize, synthesize and communicate the results of the project both through an oral defense and in a written report. It is anticipated that all projects will involve the analysis of quantitative data. Students have the option of completing the written report in the form of either a thesis or a publishable research paper.

### PRMD 6670  **Topics in Preventive Medicine**  All Sems.  1 - 3 crs.
Faculty - 303-315-8359

Special interest areas of current preventive medicine research and controversy are analyzed in depth. The course format is lecture and discussion or seminar.

### PRMD 6680  **Research in Preventive Medicine**  All Sems.  1 - 3 crs.
Faculty – 303-315-8359 Prereq: PRMD 6626, 6630, BIOS 6601, 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.

### PRMD 6910  **Field Practicum**  All Sems.  1 - 3 crs.
Faculty – 303-315-8359

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. Emphasis is on actual experience and may involve travel and extra hours work.

### PRMD 6950  **Master’s Thesis**  All Sems.  1 - 3 crs.
Faculty - 303-315-8359. Prereq.: PRMD 6626, 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 opportunity to organize, synthesize and communicate the results of the project both through an oral defense and in a written report. It is anticipated that all projects will involve the analysis of quantitative data. Students have the option of completing the written report in the form of either a thesis or a publishable research paper.

### PRMD 7600  **Topics in Epidemiology and Biometrics**  All Sems.  1 - 4 crs.
Dr. J. Hokanson – 303-315-0862. Consent of instructor is required.

Special interest areas of current epidemiologic research and biomedicine are analyzed in depth.

### PRMD 7911  **Epidemiologic Field Methods**  All Sem.  1 - 4 crs.
Dr. J. Hokanson – 303-315-0862. Prereq: PRMD 6626, 6630, 6631, 6632, BIOS 6611, 6612. Permission of instructor is required.

Ph.D. 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.

### PRMD 7915  **Analytic Methods in Epidemiology**  All Sem.  1 - 4 crs.
Dr. J. Hokanson – 303-315-0862. Prereq: PRMD 6626, 6630, 6631, 6632, or equiv. BIOS 6611, 6612. 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 Dissertation**  All Sems.  Variable cr.
Faculty – 303-315-0862. Prereq: Consent of the instructor.
## REPRODUCTIVE SCIENCES

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
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<tbody>
<tr>
<td>RPSC 7650</td>
<td>Research in Reproductive Science</td>
<td>Variable cr.</td>
<td>M.C. Neville - 303-724-3505 Prereq: Consent of the Instructor</td>
</tr>
<tr>
<td></td>
<td>Research work in Reproductive Science</td>
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<tr>
<td>RPSC 7652</td>
<td>Special Topics in Reproductive Science</td>
<td>Variable cr.</td>
<td>M.C. Neville - 303-724-3505 Prereq: Enrollment in PhD Program in Graduate School</td>
</tr>
<tr>
<td></td>
<td>This course provides instruction in a specialized area of Reproductive Science. It's content and the extent of the course varies from year to year.</td>
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<tr>
<td>RPSC 7801</td>
<td>Molecular Mechanisms of Reproductive Endocrinology and Metabolism</td>
<td>3.0 cr.</td>
<td>M.C. Neville - 303-724-3505 Prereq: Core Courses IDPT 7800, 7801, 7802 Restrictions: UCDHSC grad students; Others by permission of the Course director</td>
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<td></td>
<td>Endocrine systems will be covered from the molecule to the systems level. Pituitary secretions and their actions and regulation, regulation of water, ion, calcium balance, and regulation of metabolism including insulin secretion and action will be discussed the context of normal physiology and the mechanisms of endocrine dysfunction. Special emphasis will be placed on Reproductive Endocrinology.</td>
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<tr>
<td>RPSC 7802</td>
<td>Reproductive Development</td>
<td>1.0 cr.</td>
<td>M.C. Neville - 303-724-3505 Prereq: Core Courses IDPT 7800, 7801, 7802</td>
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<tr>
<td></td>
<td>The focus of this course is the developmental biology of reproductive systems. Sex determination, fertilization, implantation, development of the placenta and mammary glands will be covered in lectures and discussions of current literature. The course is designed to follow Endocrinology and metabolism in the Spring Semester.</td>
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<tr>
<td>RPSC 8990</td>
<td>Doctoral Thesis</td>
<td>Variable cr.</td>
<td>M.C. Neville - 303-724-3505 Prereq: Consent of the Instructor</td>
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<tr>
<td></td>
<td>Doctoral thesis work in Reproductive Science</td>
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## TOXICOLOGY

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<th>Course Code</th>
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<th>Credits</th>
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<tr>
<td></td>
<td>This core course explores key aspects of Pharmaceutical Sciences. Major themes will focus on macromolecular interactions, pharmacetics, 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>
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<tr>
<td>TXCL 7322</td>
<td>Molecular and Target Organ Toxicology</td>
<td>3.0 cr.</td>
<td>D. Ross - 303-315-6077. Prereq: Discussion with and consent of Instructor.</td>
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<td></td>
<td>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.</td>
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<tr>
<td>TXCL 7323</td>
<td>Environmental and Target Organ Toxicology</td>
<td>2.0 cr.</td>
<td>D. Petersen - 303-315-1938. Prereq: Consent of instructor.</td>
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<td></td>
<td>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.</td>
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<tr>
<td>TXCL 7325</td>
<td>Current Topics in Toxicology Research</td>
<td>1.0 cr.</td>
<td>C. Ju - 303-315-2180.</td>
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<td>This is a mandatory course for toxicology students. The course will meet bi-weekly and consists of research seminars and student research paper discussions. Each student is expected to lead one discussion per year, and the papers discussed will be authored by the upcoming toxicology seminar series speaker.</td>
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<td>This course will consist of a comprehensive overview of the physiology of the nervous cardiovascular, respiratory, renal, gastrointestinal, endocrine, and reproductive systems. Students enrolled in this course will receive assignments concerning organ-specific, cell-cell interactions in overall physiology.</td>
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<tr>
<td>TXCL 7400</td>
<td>Ethical Issues in Toxicology &amp; Pharm Sciences</td>
<td>1.0 cr.</td>
<td>R. Agarwal. 303-315-0755.</td>
</tr>
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<td>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>
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<tr>
<td>TXCL 7475</td>
<td>Advanced Topics in Toxicology</td>
<td>Variable cr.</td>
<td>Faculty - 303-315-6153. Prereq: Consent of instructor. Consider special topic of current interest in toxicology.</td>
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</tbody>
</table>
Students will perform literature research to address actual ongoing consultations made to a private practice of environmental toxicology. Questions of occupational or environmental safety, product safety, regulatory compliance, personal injury and medical monitoring will be addressed by writing conclusions formed by use of principles of Evidence-based toxicology.

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. The interrelationship between genes and drug metabolism along with studies of polymorphic differences in genes encoding drug metabolizing enzymes.

Provides students with experience in risk assessment and environmental toxicology for public health and regulatory decision making. Topics include comprehensive human health risk assessments, both baseline and probabilistic statistics, ecological risk assessment activities associated with emergency action, medical monitoring and the role toxicology plays in the courtroom.

An overview of the drug development process with particular focus on the role of the toxicologist. 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 & due diligence review for licensing opportunities.

Research work in toxicology.

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.

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.

Doctoral thesis work in toxicology.
SCHOOL OF MEDICINE

PHASE I – REQUIRED CURRICULUM FALL SEMESTER 2007

IDPT 5000  Foundations Doctoring I  1.6 cr.
Course Director, Wendy Madigosky, M.D. Course Coordinator, Tina Roquemore, 303-315-1546.
The course is designed to expose students to basic clinical skills necessary for physicians. The course includes a weekly preceptorship along with instruction in physical exam, communication skills and professionalism.

IDPT 5001  Human Body  7.0 cr.
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  0.3 cr.
Course Director, Todd Larabee, M.D. 303-372-5500. Course Coordinator, Cathy Maciel, 303-372-5500.
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  0.6 cr.
Course Director, Richard L. Byyny, M.D.  Course Coordinator, Melody Johnson, 303-315-3050.
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 2008

IDPT 5000  Foundations Doctoring I  1.6 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. 303-764-8365 and Jill Slansky, 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.
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. 303-315-8386 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  0.6 cr.
Course Director, Richard L. Byyny, M.D.  Course Coordinator, Melody Johnson, 303-315-3050.
A continuation of course begun in fall semester.

PRMD 5000  Ethics Hlth Profession I  0.7 cr.
Course Director, Jackie Glover, Ph.D., 303-315-6093.
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.
IDPT 6000 Foundations Doctoring II  
Course Director, Wendy Madigosky, M.D. 303-315-1532. Course Coordinator, Tina Roquemore, 303-315-1546.
This course is the second year of the longitudinal Foundations curriculum. Students spend one afternoon each week off campus with a generalist physician or on campus learning communications or physical exam skills. Course limited to second year medical students.

IDPT 6001 Nervous System  
Co-Course Directors, Tom French, Ph.D., 303-315-8089 and Steven Ojemann, M.D., 303-315-1764.
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.

IDPT 6002 Digest/Endo/Metabolic Sys  
Co-Course Directors, Robin Michaels, Ph.D., 303-724-3402, Virginia Sarapura, M.D., 303-724-3931 and Daniel Bessesen, M.D., 303-315-9005.
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.

IDPT 6090 Mentored Scholarship  
Course Director, Richard L. Byyny, M.D. Course Coordinator, Melody Johnson, 303-315-3050.
Second year of course begun fall semester of Phase I.

PRMD 6000 Ethics Hlth Profession 2  
Course Director, Jackie Glover, Ph.D., 303-315-6093.
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.

IDPT 6000 Foundations Doctoring II  
Course Director, Wendy Madigosky, M.D. 303-315-1532. Course Coordinator, Tina Roquemore, 303-315-1546.
This course is the second year of the longitudinal Foundations curriculum. Students spend one afternoon each week off campus with a generalist physician or on campus learning communications or physical exam skills. Course limited to second year medical students.

IDPT 6003 Life Cycle  
Co-Course Directors, Robert Shikes, M.D., 303-315-5410 and Sonya Erickson, M.D., 303-315-1487.
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.

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).

IDPT 6015 BCLS Update  
Course Director, Todd Larabee, M.D., 303-372-5500. Course Coordinator, Cathy Maciel, 303-372-5500.
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  
Course Director, Richard L. Byyny, M.D. Course Coordinator, Melody Johnson, 303-315-3050.
Second year of course begun fall semester of Phase I.
### ELECTIVES FOR PHASE 1 AND 2 STUDENTS

#### DERMATOLOGY ELECTIVE

**DERM 6660 Career Elective in DERM**  
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 adult and pediatric medicine, surgery and dermatopathology.

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<td>DERM 6660</td>
<td>Career Elective in DERM</td>
<td>All terms</td>
<td>1.0 crs</td>
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#### FAMILY MEDICINE ELECTIVES

**FMMD 6410 Immersion Spanish**  
Course Director, David Gaspar, M.D.; Course Coordinator, Cynthia Villanueva, 303-315-5684.  
Students will attend an accredited Spanish language school in a Spanish speaking country. Participation is 60 hours of Spanish instruction: 15 hours of language class per week for 4 weeks or 20 hours/wk for 3 weeks.

**FMMD 6622 Intro FMMMD Research**  
Course Director, David Gaspar, M.D.; Course Coordinator, Cynthia Villanueva, 303-315-5684.  
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.

**FMMD 6624 Hlthcare Poor/Homeless**  
Course Director, Allegra Melillo, M.D. Course Coordinator, Cynthia Villanueva, 303-315-5684.  
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.

**FMMD 6628 Rural Track Elective**  
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. 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.

**FMMD 6629 SABES Spanish Immersion**  
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.

#### INTERDEPARTMENTAL ELECTIVES

**IDPT 6627 Directed Study Basic Sci**  
Course Directors: Maureen Garrity, Ph.D., Lorraine Adams; Course Coordinator, Becky Gossert, 303-315-7678.  
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**  
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 6634 Maternity Matching**  
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.

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<tr>
<td>IDPT 6627</td>
<td>Directed Study Basic Sci</td>
<td>All sems.</td>
<td>Var. cr.</td>
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<tr>
<td>IDPT 6628</td>
<td>Nutrition and Cancer</td>
<td>Spring sem.</td>
<td>1.0 cr. Max: 30/Min: 8</td>
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<tr>
<td>IDPT 6634</td>
<td>Maternity Matching</td>
<td>Fall and Spring sem.</td>
<td>1.0 cr. per term</td>
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Course Director, Loraine Dugoff, M.D. 303-372-6695. Course Coordinator, Mike Baca, 303-315-4540.

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.

**MED 6627**  
**treatment of cancer.**

**MED 6626**  
required. Dr. Repine will meet with students interested in a career in academic medicine and/or research. Course Director, John Repine, M.D., 303-315-1566.

**MED 6623**  
functioning 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 6621**  
**Geriatric Medicine**  
Course Director, Laurence Robbins, 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 Research**  
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**  
Course Director, Christopher Hogan, 303-724-3113. Director, Bob Gemmill, 303-724-3582. Course Coordinator, Evelyn 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.

**MEDICINE ELECTIVES**

**MED 6636**  
**Summer Preceptor Exp**  
Summer sem.  1.0 cr.

Restrictions: Available summer semester only.

Course Director, Wendy Madigosky, M.D. Course Coordinator, Tina Roquemore, 303-315-1546.

Elective 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.

**MED 6637**  
**LEAD**  
Spring sem.  2.0 cr.

Course Director, Shale Wong, M.D. Course Coordinator, Karen Mellis, 303-372-9088.

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.

**MED 6639**  
**Hlth Care-Public Policy**  
Fall and Spr sem.  1.0 cr.

Course Director, Gary VanderArk, M.D. 303-315-2320 Course Coordinator, Diana Doyle, 303-315-0303.

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.

**MED 6642**  
**Intro to Women’s Health**  
Fall sem.  1.0 crs.

Course Director, Sonya Erickson, M.D. Course Coordinator, Melissa Lorenzo, 303-315-1487.

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.

**MED 6667**  
**Global Hlth Studies (US)**  
Summer sem.  10.0 crs

Course Director, Andrew Kestler, M.D.: Course Coordinator, Cathy Maciel, 303-372-4121.

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.

**MED 6668**  
**Global Hlth Study Aboard**  
Summer sem.  10.0 crs

Course Director, Andrew Kestler, M.D.: Course Coordinator, Cathy Maciel, 303-372-4121.

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.

**MED 6636**  
**Summer Preceptor Exp**  
Summer sem.  1.0 cr.

Restrictions: Available summer semester only.

Course Director, Wendy Madigosky, M.D. Course Coordinator, Tina Roquemore, 303-315-1546.

Elective 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.

**MED 6637**  
**LEAD**  
Spring sem.  2.0 cr.

Course Director, Shale Wong, M.D. Course Coordinator, Karen Mellis, 303-372-9088.

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.

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Fall and Spr sem.  1.0 cr.

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Summer sem.  10.0 crs

Course Director, Andrew Kestler, M.D.: Course Coordinator, Cathy Maciel, 303-372-4121.

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.
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-Theories & Practices**  
Spring sem.  
1.0 cr.  
Course Director, Lisa Corbin, M.D., 720-848-1225. Course Coordinator, Mary Samson, 303-315-1976.  
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.

**ORTHOPAEDIC ELECTIVES**

**ORTH 6620 Intro to Orthopedics**  
Spring sem.  
1.0 cr.  
Max: 30/Min: 10  
Course covers basic clinical problems of the musculoskeletal system. Topics include musculoskeletal physiology, reconstructive surgery, trauma, sports medicine, cast technique, and primary care orthopaedics. An opportunity is available for experience in the operating room and outpatient clinic.

**OTOLARYNGOLOGY ELECTIVE**

**OTOL 6660 Career Elective in OTOL**  
All terms  
1.0 crs.  
Course Director, Peggy E. Kelly, M.D. Course Coordinator, Alicia L. Gore, 303-315-1569.  
The Career Elective in Otolaryngology – Head & 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.

**PEDIATRIC ELECTIVES**

**PED 6622 Diabetes Mellitus**  
Summer sem.  
3.0 cr.  
Max: 3  
Course Director, Paul Wadwa, 303-724-6719.  
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.

**PED 6623 Warren Village Clinic**  
All sems.  
1.0 cr.  
Max: 20/Min: 8  
Course Director, Stephanie Stevens, M.D. Course Coordinator, Brenda Lovato, 303-861-6867.  
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.

**PSYCHIATRY ELECTIVES**

**PSCH 6620 PSCH in Great Literature**  
Fall and Spr sems.  
2.0 cr.  
Max: 15/Min: 4  
Course Director, Robert Davies, M.D., 303-315-0452. Course Coordinator, Carole Evans, 303-315-8411.  
Writers, the first thinkers to understand the "whole man," 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.

**PSCH 6626 Intro to Emergency Psch**  
Spring sem.  
1.0 cr.  
Max: 20/Min: 4  
Course Director, Michael Weissberg, M.D. Course Coordinator, Carole Evans, 303-315-8411.  
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.
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.

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.

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.

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 with an optional write-up for honors.

Required clinical clerkships are open only to University of Colorado Medical Students.

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.

The course is designed as a transition to the clerkship blocks. Course material will provide students with fundamental clinical skills, important information about clinical courses and an increased comfort level prior to beginning clinical core rotations.
IDPT 7002 Integrated Clinicians 2  
**Course Director, Robin Deterding, M.D.**  
**Course Coordinator, Brooke Parsons, 303-315-0042.**  
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.  
**2.0 crs**

IDPT 7003 Integrated Clinicians 3  
**Course Director, Robin Deterding, M.D.**  
**Course Coordinator, Brooke Parsons, 303-315-0042.**  
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.  
**4.0 crs**

IDPT 7004 Integrated Clinicians 4  
**Course Director, Robin Deterding, M.D.**  
**Course Coordinator, Brooke Parsons, 303-315-0042.**  
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.  
**4.0 crs**

IDPT 7010 Hospitalized Adult Care  
**Co-Course Directors, Eva Aagaard, M.D. and Paul Seligman, M.D.**  
**Course Coordinator, Vicki Melton, 303-315-6758.**  
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.  
**16.0 crs**

IDPT 7020 Infant/Adolescent Care  
**Course Director, Shale Wong, M.D., MSPH.**  
**Course Coordinator, Brenda Lovato, 303-861-6867**  
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.  
**12.0 crs**

IDPT 7021 Musculoskeletal Care  
**Co-Course Directors, William Sullivan, M.D. and Richard Fisher, M.D.**  
This block combines PM&R, Orthopaedics, Rheumatology, basic science, and thread topics to develop competency in history and physical exam skills and the use of laboratory data and basic imaging studies to diagnose, treat, and prevent abnormalities of the musculoskeletal system.  
**4.0 crs**

IDPT 7030 Women and Newborn Care  
**Course Director, Lorraine Dugoff, M.D.**  
**Course Coordinator, Michael Baca, 303-315-4540.**  
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.  
**12.0 crs**

IDPT 7031 Emergency Care  
**Co-Course Directors, Lynne M. Yancey, M.D. and Glenn Faries, M.D.**  
**Course Coordinator, Marybeth Hutchins, 303-372-5503.**  
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.  
**4.0 crs**

IDPT 7040 Psychiatric Care  
**Course Director, Michael Weissberg, M.D.**  
**Course Coordinator, Carole Evans, 303-315-8411.**  
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.  
**8.0 crs**

IDPT 7041 Neurologic Care  
**Course Director, Christopher M. Filley, M.D.**  
**Course Coordinator, Marcia Sabo, 303-315-7214.**  
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.  
**8.0 crs**

IDPT 7050 Peri/Operative Care  
**Co-Course Directors, Thomas Whitehill, M.D. and Matthew Roberts, M.D.**  
**Co-Course Coordinator, Janice Frary, 303-315-4601 and Octavia Powell, 303-372-6319.**  
Students study surgical disease processes and therapeutic procedures in perioperative settings, while gaining operative experience in general surgery and clinical anesthesiology. Focuses on the assessment and management of common inpatient and ambulatory surgical problems from initial referral to discharge.  
**16.0 crs**

IDPT 7060 Adult Ambulatory Care  
**Course Director, Kelly White, M.D.**  
**Course Coordinator, Jane Seid, 303-315-7765.**  
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.  
**8.0 crs**
IDPT 7061 Rural and Community Care  All terms  8.0 crs
Course Director, David Gaspar, M.D.  Course Coordinator, Cynthia Villanueva, 303-315-5684.
Students will learn the basics of care for patients in rural community settings throughout Colorado.

IDPT 7727 Directed Study Clin Sci  All terms  1 – 12.0 crs.
Course Director, Maureen Garrity, Ph.D.:  Course Coordinator, Cindy Jameson, 303-315-7678.
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.

SCHOOL OF MEDICINE PHASE 4 ELECTIVES 2007-08
Prerequisite for all Phase 4 electives: Completion of Phase 3

<table>
<thead>
<tr>
<th>ANESTHESIOLOGY ELECTIVES</th>
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</thead>
<tbody>
<tr>
<td>ANES 8000  Clinical Anesthesiology  2 - 4 wks  Max: 4</td>
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<tr>
<td>Course Director, Joy Hawkins, M.D., 303-372-6321. Course Coordinator, Octavia Powell, 303-372-6319.</td>
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<tr>
<td>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.</td>
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</tbody>
</table>

| ANES 8001  Surgery Intensive Care  4 wks  Max: 2 |
| Course Director, Fareed Azam, M.D., 303-266-6420. Course Coordinator, Octavia Powell, 303-372-6319.|
| During this Sub-I multi disciplinary rotation, students actively participate in patient management, perform procedures, present clinical topics, discuss 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  Max: 4 |
| Course Director, Joy Hawkins, M.D., 303-372-6321. Course Coordinator, Octavia Powell, 303-372-6319.|
| 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, Joy Hawkins, M.D., 303-372-6321.|
| Prerequisite: 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 Octavia Powell. |

| 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, Joy Hawkins, M.D. Course Coordinator, Octavia Powell, 303-372-6319.|
| 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. 303-315-1890. Course Coordinator, Octavia Powell, 303-372-6319.|
| Prerequisite: Special permission and individual arrangements required in advance. The student must receive prior approval from the Associate Dean for Student Affairs. |

| ANES 8630  Research Anes Outside CO  4 - 12 wks |
| Course description is the same as ANES 8600. |

| ANES 8640  Research Anes Out Of U.S.  4 - 12 wks |
| Course description is the same as ANES 8600. |
## DERMATOLOGY ELECTIVES

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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Duration</th>
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<tbody>
<tr>
<td>DERM 8000</td>
<td>Clinical Dermatology</td>
<td>4 wks</td>
<td>6</td>
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<tr>
<td></td>
<td>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.</td>
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<tbody>
<tr>
<td>DERM 8300</td>
<td>Course Away Outside Colo</td>
<td>4 wks</td>
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<tr>
<td></td>
<td>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.</td>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>DERM 8400</td>
<td>Course Away Outside U.S.</td>
<td>4 wks</td>
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<tr>
<td></td>
<td>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.</td>
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<tr>
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<tbody>
<tr>
<td>DERM 8600</td>
<td>Research in Dermatology</td>
<td>16 wks</td>
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<tr>
<td></td>
<td>Course Director, Cory Dunnick, M.D. Course Coordinator, Kemp Weston, 720-848-0510. Prerequisite: Course Director approval required. 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.</td>
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<th>Max:</th>
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<tbody>
<tr>
<td>DERM 8630</td>
<td>Research Derm Outside CO</td>
<td>12 wks</td>
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<tr>
<td></td>
<td>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.</td>
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<tr>
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<tbody>
<tr>
<td>DERM 8640</td>
<td>Research Derm Out Of U.S.</td>
<td>12 wks</td>
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<td>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.</td>
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## FAMILY MEDICINE ELECTIVES

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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Duration</th>
<th>Max:</th>
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<tbody>
<tr>
<td>FMMD 8001</td>
<td>Healthcare Poor/Homeless</td>
<td>12 wks</td>
<td>8</td>
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<td></td>
<td>Fall/Spring Semesters only Course Director, Allegra Melillo, M.D., Course Coordinator, Cynthia Villanueva, 303-315-5684. 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.</td>
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<tr>
<th>Course Code</th>
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<th>Duration</th>
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<tbody>
<tr>
<td>FMMD 8002</td>
<td>Family Med Subinternship</td>
<td>4 wks</td>
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<td>Course Director, Steve Stahl, M.D., Course Coordinator, Alice Skram, 720-848-8096. 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).</td>
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<th>Max:</th>
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<tbody>
<tr>
<td>FMMD 8005</td>
<td>Care for Underserved</td>
<td>2 wks</td>
<td>1</td>
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<td></td>
<td>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.</td>
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<tbody>
<tr>
<td>FMMD 8007</td>
<td>Out-Patient Family Med</td>
<td>4 wks</td>
<td>2</td>
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<td></td>
<td>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.</td>
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</table>
FMMD 8008  Occup/Envir Med In FMMD  2 - 4 wks        Max: 1
Course Director, David Gaspar, M.D.  Course Coordinator, Cynthia Villanueva, 303-315-5684.
Prerequisite: Course director approval required to add this elective.
Opportunities for the student to learn a variety of physical examinations ranging from sport physicals and commercial/FAA exams to complex disability evaluations.  Elective taught by Dr. Stephen Gray.

FMMD 8009  Directed Study in FMMD  2 - 8 wks
Course Director, David Gaspar, M.D.  Course Coordinator, Cynthia Villanueva, 303-315-5684.
Prerequisite: Course director approval required to add elective.
Students may participate in directed scholarly work with specific faculty members including curriculum development projects, and other scholarly activities.

FMMD 8010  Preventive Hlth Elective  2 wks        Min: 3/Max: 6
Course Director, David Gaspar, M.D.;  Course Coordinator, Bonnie Jortberg, MS, RD, CDE, 303-315-8078.
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  2 wks        Max: 8
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  2 - 16 wks
Course Director, David Gaspar, M.D.  Course Coordinator, Cynthia Villanueva, 303-315-5684.
Management of problems common to Family Medicine.  Both inpatient/outpatient experiences.  Saint Joseph’s, St. Anthony’s, Rose, and Swedish Family Medicine Residency programs also available.  Sub-I application must be through the individual residency program.

FMMD 8200  Course Away In Colorado  2 - 16 wks
Course Director, David Gaspar, M.D.  Course Coordinator, Cynthia Villanueva, 303-315-5684.
Restrictions: Not Available sections 49-50.  Same as FMMD 8100, except students work outside the Denver area.  Residency sites: Ft. Collins, North Colorado (Greeley), Saint Mary’s (Grand Junction), Southern Colorado (Pueblo).  Sub-I application must be through the individual residency program.

FMMD 8300  Course Away Outside Colo  2 - 16 wks
Course Director, David Gaspar, M.D.  Course Coordinator, Cynthia Villanueva, 303-315-5684.
Restrictions: Not available sections 49-50.  Course Description same as FMMD 8100, except that course occurs in Family Medicine practices or Residency Programs outside of Colorado.

FMMD 8400  Course Away Outside U.S.  4 - 16 wks
Course Director, David Gaspar, M.D.  Course Coordinator, Cynthia Villanueva, 303-315-5684.
Restrictions: Not available sections 49-50.  Prerequisite: Approval from the Associate Dean for Student Affairs required to register.
Course description same as FMMD 8100, but occurring in another country.

FMMD 8410  Immersion Spanish  4 wks
Course Director, David Gaspar, M.D.  Course Coordinator, Cynthia Villanueva, 303-315-5684.
Restrictions: Not available sections 49-50.  Participation is 20 hours of language class per week for 4 wks and either a medical Spanish course for 20 hours or volunteer in a local medical clinic 2 half days/week.

FMMD 8600  Research in FMMD  2 - 12 wks
Course Director, David Gaspar, M.D.  Course Coordinator, Cynthia Villanueva, 303-315-5684.
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  4 - 12 wks
Course Director, David Gaspar, M.D.  Course Coordinator, Cynthia Villanueva, 303-315-5684.
Restrictions: Not available sections 49-50.  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.
FMMF 8640  Research FMMD Out Of U.S  4 - 12 wks
Course Director, David Gaspar, M.D.  Course Coordinator, Cynthia Villanueva, 303-315-5684.
Restrictions: Not available sections 49-50.
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.
Course description same as FMMD 8600, except occurs outside of U.S.

INTERDEPARTMENTAL ELECTIVES

IDPT 8000  Foundations Doctoring 4  0.2 cr. Summer, 0.4 Fall & Spring
Course Director, Wendy Madigosky, M.D., 303-315-1532. Course Coordinator, Tina Roquemore, 303-315-1546.
This course continues the established student-preceptor relationship from the FDC course. Students attend
their preceptor office one afternoon a week. 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., 303-315-1532. Course Coordinator, Tina Roquemore, 303-315-1546.
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 8002  Adv Cardiac Life Support  0.5 cr.  Max: 42
Course Director, Todd Larabee, M.D., 303-372-5500. Course Coordinator, Cathy Maciel, 303-372-5503.
Prerequisite: Current BLS Certification.
Two day AHA course offered twice in the senior year spring semester with certification in management of
cardiac and respiratory arrest. Students should contact their residency to see if ACLS is required before beginning
internship.

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 Deterding, M.D.  Course Coordinator, Brooke Parsons, 303-315-0042.
ICC 5 is a required Phase IV course that will provide learning opportunities in advanced clinical skills/content,
translational science and threads. Material will be presented in didactic sessions, small groups and independent learning
with content developed for different career paths.

IDPT 8006  Integrated Clinicians 6  2 wks
Course Director, Robin Deterding, M.D.  Course Coordinator, Brooke Parsons, 303-315-0042.
ICC 6 is a required Phase IV course that will provide learning opportunities in advanced clinical skills/content,
translational science and threads. Material will be presented in didactic sessions, small groups and independent learning
with content developed for different career paths.

IDPT 8007  Medicine / Pediatrics  2, 3 or 4 wks  Max: 1
Course Directors: Eva Aagaard, M.D., 303-315-2184 and Robin Deterding, M.D., 303-764-8449. Course Coordinator,
Vicki Melton, 303-315-6758.
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, 303-315-1569.
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  2 wks  Max: 1
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.
MED 8001 Medicine Subinternship 4 wks Max: 18
Course Director, Eva Aagaard, M.D., 303-315-7768.  Course Coordinator, Vicki Melton, 303-315-6758.

The sub-intern functions as an intern and is responsible for the admission, evaluation, and continuing care of patients under the supervision of a Resident and an Attending.  Sub-internships are offered at DHMC, RMC, P/SL, UCH and VAMC.

MED 8003 Transfusion Medicine 4 wks Max: 1
Course Director, Daniel R. Ambruso, M.D., 303-363-2241.  Course Coordinator, Flo Usechek, 303-363-2241.
This course is a comprehensive study of transfusion medicine, pre-transfusion testing, component preparation and storage, donor selection and testing, inventory control and blood administration.  Independent study and research encouraged.

MED 8004 Cardiology 4 - 6 wks Max: 6
Course Director, Peter M. Buttrick, M.D., 303-315-4398.  Course Coordinator, Karen Mileham, 303-315-4398.

Designed to offer a broad general exposure to adult cardiology, including history, physical examination, and an introduction and review of standard noninvasive testing.  Rotations will be at UCH, DVAMC and DHMC with assignments based on timing of request and availability.

MED 8005 Cardiac Diagnostic Skill 2 wks Max: 6
Course Director, William Nelson, MD.  303-837-6822.  Course Coordinator, Vicki Melton, 303-315-6758.

Restrictions:  Course may only be added during a drop/add time.
Course is at Exemla 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, Yvonne Fitzpatrick, 303-315-7233.

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: 3
Course Director, Joel Levine, M.D.  Course Coordinator, Amanda Bauer, 303-315-2537.

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.
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, 303-315-7592.
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, E. Chester Ridgway, M.D.  Course Coordinator, Jackie Martine, 303-724-3922.
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, 303-315-8474.
Prerequisite: Med, Obgy, Ped, Pach 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, 303-315-8474.
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.
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.
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 8028  Primary Care Elective  2, 3 or 4 wks  Max: 2
Course Director, Kelly White, M.D.  303-315-6758. Course Coordinator, Vicki Melton, 303-315-6758.
Working with a primary care internist, students improve skills in the focused history and physical to address the chief complaint; assessment and plan; preventive medicine; psychosocial problems; and appropriate referral to specialists. Denver and AHEC sites available.

MED 8029  Applied Clin Pharmacolog  4 wks  Max: 120/Min: 20
Course Director, Mike Zawada, 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  2 wks  Max: 1
Course Director, Ingrid Binswanger, M.D.  303-315-6758. Course Coordinator, Vicki Melton, 303-315-6758.
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  4 wks  Max: 2
Course Directors, Robert Gibbons, M.D. and Lisa Cyran, M.D.  Course Coordinator, Maggie Ward, 303-837-7837.
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.
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Max:</th>
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<tbody>
<tr>
<td>MED 8034</td>
<td><strong>Sub I Crit Care StJoseph</strong></td>
<td>4 wks</td>
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<td></td>
<td>Course Directors, Robert Gibbons, M.D. and Lisa Cyran, M.D. Course Coordinator, Maggie Ward, 303-637-7837. Student functions as an inter-equivalent and admits patients during overnight call every third day. Students will enhance skills in reporting, interpreting clinical information, in patient management and in daily ICU interdisciplinary rounds. Students will present an EMB-research clinical question.</td>
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<tr>
<td>MED 8036</td>
<td><strong>Sub I Critical Care DHMC</strong></td>
<td>4 wks</td>
<td>2</td>
</tr>
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<td></td>
<td>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.</td>
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<tr>
<td>MED 8037</td>
<td><strong>Sub I Critical Care UH</strong></td>
<td>4 wks</td>
<td>1</td>
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<td></td>
<td>Course Director, Todd Bull, M.D. Course Coordinator, Jennifer Waters, 303-315-4211. 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.</td>
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<tr>
<td>MED 8100</td>
<td><strong>Course Away in Denver</strong></td>
<td>2 - 16 wks</td>
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<td>Course Directors, Paul Seligman, M.D., and Eva Aagaard, M.D. Course Coordinator, Vicki Melton, 303-315-6758. Restrictions: Not available sections 49-50. Prerequisite: Course director approved required to add course. Students discuss your course evaluation with individual instructor and ensure written evaluation is mailed to Dr. Eva Aagaard at 4200 E. 9th Ave., Box B-166, Denver, CO 80262. Dr. Aagaard assigns final grade.</td>
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<td>MED 8200</td>
<td><strong>Course Away in Colorado</strong></td>
<td>2 - 16 wks</td>
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<td>Course description and restrictions same as Med 8100.</td>
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<tr>
<td>MED 8300</td>
<td><strong>Course Away Outside Colo</strong></td>
<td>2 - 16 wks</td>
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<td>Course description and restrictions same as Med 8100.</td>
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<tr>
<td>MED 8400</td>
<td><strong>Course Away Outside U.S.</strong></td>
<td>4 - 16 wks</td>
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<td>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.</td>
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<tr>
<td>MED 8600</td>
<td><strong>Research in Medicine</strong></td>
<td>2 - 12 wks</td>
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<td></td>
<td>Course Directors Kathryn Horwitz, Ph.D., 303-724-3936 and Eva Aagaard, M.D. 303-315-2184. Course Coordinator, Vicki Melton, 303-315-6758. 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 about the varieties of options available.</td>
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<tr>
<td>MED 8601</td>
<td><strong>Intro Biomed Research</strong></td>
<td>2 - 4 wks</td>
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<td>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 Course Director. Course Director, John Repine, M.D.</td>
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<tr>
<td>MED 8630</td>
<td><strong>Research Med Outside CO</strong></td>
<td>4 - 12 wks</td>
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<tr>
<td></td>
<td>Course Directors Kathryn Horwitz, Ph.D., 303-724-3936 and Eva Aagaard, M.D. 303-315-2184. Course Coordinator, Vicki Melton, 303-315-6758. 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.</td>
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<tr>
<td>MED 8640</td>
<td><strong>Research Med Out Of U.S.</strong></td>
<td>4 - 12 wks</td>
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<td></td>
<td>Course Directors Kathryn Horwitz, Ph.D., 303-724-3936 and Eva Aagaard, M.D. 303-315-2184. Course Coordinator, Vicki Melton, 303-315-6758. Restrictions: Not available sections 49-50. Students 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.</td>
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</table>
NEUROLOGY ELECTIVES

NEUR 8000  Neurology  4 wks  Max: 3
Course Director, Christopher M. Filley, M.D., 303-315-6461. Course Coordinator, Marcia Sabo, 303-315-7214.
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  2 - 16 wks
Course Director, Christopher M. Filley, M.D., 303-315-6461. Course Coordinator, Marcia Sabo, 303-315-7214.
Prerequisite: Arrangements must be made one month in advance.
A written evaluation must be sent from the outside department to Dr. Filley (4200 E. 9th Ave., B-183, Denver, CO 80262). Dr. Filley assigns final grade.

NEUR 8300  Course Away Outside Colo  4 - 16 wks
Course description is the same as Neur 8100.

NEUR 8400  Course Away Outside U.S.  4 - 16 wks
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  2 - 12 wks
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, Cathy Allen, 303-315-8281.

NEUR 8630  Research Neur Outside Colo  2 - 12 wks
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  4 - 12 wks
Course description same as NEUR 8630.

NEUROSURGERY ELECTIVES

NSUR 8014  Neurosurgery Sub I  2 - 6 wks  Max: 8
Course Director, Michael Handler, M.D., 303-861-6100. Course Coordinator, Diana Doyle, 303-315-0303.
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  2 - 16 wks
Course Director, Michael Handler, M.D. Course Coordinator, Diana Doyle, 303-315-0303.
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  2 - 16 wks
Restrictions: Not available sections 49-50.
Course description is the same as NSUR 8100.

NSUR 8300  Course Away Outside Colo  4 - 16 wks
Restrictions: Not available sections 49-50.
Course description is the same as NSUR 8100.

NSUR 8400  Course Away Outside U.S.  4 - 16 wks
Restrictions: Not available sections 49-50.
Course description is the same as NSUR 8100.

NSUR 8600  Research in Neurosurgery  2 - 12 wks
Course Director, Michael Handler, M.D. Course Coordinator, Diana Doyle, 303-315-0303.
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 & Diana Doyle, 4200 E. 9th Ave., Box C-307, Denver, CO 80262.
### OBSTETRICS AND GYNECOLOGY ELECTIVES

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Duration</th>
<th>Max:</th>
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<tbody>
<tr>
<td>OBGY 8000</td>
<td>General Obstetrics Sub I</td>
<td>4 wks</td>
<td>1</td>
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<tr>
<td>OBGY 8001</td>
<td>General Gynecology Sub I</td>
<td>4 wks</td>
<td>1</td>
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<tr>
<td>OBGY 8002</td>
<td>Directed Study in OBGYN</td>
<td>4 or 8 wks</td>
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<tr>
<td>OBGY 8004</td>
<td>High Risk Maternal/Fetal</td>
<td>4 wks</td>
<td>1</td>
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<tr>
<td>OBGY 8005</td>
<td>Gynecologic Oncology</td>
<td>4 or 6 wks</td>
<td>1</td>
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<tr>
<td>OBGY 8009</td>
<td>GYN Subspecialties</td>
<td>4 or 6 wks</td>
<td>1</td>
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<tr>
<td>OBGY 8100</td>
<td>Reproductive/Infertility</td>
<td>4 wks</td>
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<tr>
<td>OBGY 8100</td>
<td>Course Away in Denver</td>
<td>2 - 16 wks</td>
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<tr>
<td>OBGY 8200</td>
<td>Course Away in Colorado</td>
<td>2 - 16 wks</td>
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<tr>
<td>OBGY 8300</td>
<td>Course Away Outside Colo</td>
<td>2 - 16 wks</td>
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<tr>
<td>OBGY 8400</td>
<td>Course Away Outside U.S.</td>
<td>4 - 12 wks</td>
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**OBGY 8000 General Obstetrics Sub I**

Course Director, Lorraine Dugoff, M.D. 303-315-7267. Course Coordinator, Michael Baca, 303-315-4540. 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. 303-315-7267. Course Coordinator, Michael Baca, 303-315-4540. Offered at DHMC only. Includes experience in out-patient gynecology, family planning, operative gynecology and postoperative care. Student works under supervision of residents and attending staff.

**OBGY 8002 Directed Study in OBGYN**

Course Director, Lorraine Dugoff, M.D., 303-315-7267. Course Coordinator, Michael Baca, 303-315-4540. 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. 303-315-7267. Course Coordinator, Michael Baca, 303-315-4540. 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. 303-315-7267. Course Coordinator, Michael Baca, 303-315-4540. 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**

Course Director, Lorraine Dugoff, M.D. 303-315-7267. Course Coordinator, Michael Baca, 303-315-4540. 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 8100 Reproductive/Infertility**

Course Director, Ruben Alvero, M.D. Course Coordinator, Michael Baca, 303-315-4540. 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 8100 Course Away in Denver**

Course Director, Lorraine Dugoff, M.D. 303-315-7267. Course Coordinator, Michael Baca, 303-315-4540. 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**

Course description same as OBGY 8100.

**OBGY 8300 Course Away Outside Colo**

Course description same as OBGY 8100.

**OBGY 8400 Course Away Outside U.S.**

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.

**OPHTHALMOLOGY 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.  4 - 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 final written evaluation must be mailed to Course Director who will assign the final grade.

OPHT 8630  Research OPHT Outside CO  4 - 16 wks
Course description is the same as OPHT 8100.

OPHT 8640  Research OPHT Out Of U.S  4 - 16 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.

**ORTHOPEDIC ELECTIVES**

ORTH 8000  Orthopaedic Surgery  4 or 6 wks  Max: 6
Course Director, Richard Fisher, M.D., Course Coordinator, Mary Samson, 303-315-1976.
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, Richard Fisher, M.D., Course Coordinator, Mary Samson, 303-315-1976.
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 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, Richard Fisher, M.D., Course Coordinator, Mary Samson, 303-315-1976.
Prerequisites: Arrangements must be made one month in advance. Departmental approval required to register.
ORTH 8200  Course Away In Colorado  
Course description same as ORTH 8100.

ORTH 8300  Course Away Outside Colo  
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, Richard Fisher, M.D., Course Coordinator, Mary Samson, 303-315-1976.  
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 OTOL Outside Colo  
4 - 12 wks
Prerequisites: Departmental approval must be obtained and all arrangements made at least one month in advance.

ORTH 8640  Research OTOL 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. 303-764-8520. Course Coordinator, Alicia Gore, 303-315-1569.  
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. Option available to do Honors paper.

OTOL 8100  Course Away In Denver  
2 - 16 wks
Course Director, Peggy Kelley, M.D. 303-764-8520. Course Coordinator, Alicia Gore, 303-315-1569.  
Prerequisites: Required departmental approval and all arrangements made one quarter in advance.
Students required to discuss course evaluations with individual instructor and ensure the written evaluation is faxed to course coordinator at 303-315-1081. 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

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<th>Course Title</th>
<th>Duration</th>
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<tbody>
<tr>
<td>PATH 8000</td>
<td>Pathology</td>
<td>4, 6 or 12 wks</td>
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<tr>
<td>PATH 8001</td>
<td>Laboratory Medicine</td>
<td>4 wks</td>
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<tr>
<td>PATH 8002</td>
<td>Experimental Pathology</td>
<td>6 - 12 wks</td>
<td>12</td>
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<tr>
<td>PATH 8100</td>
<td>Course Away in Denver</td>
<td>2 - 16 wks</td>
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<tr>
<td>PATH 8200</td>
<td>Course Away in Colorado</td>
<td>2 - 16 wks</td>
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<td>Path 8300</td>
<td>Course Away Outside Colo</td>
<td>4 - 16 wks</td>
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<td>PATH 8400</td>
<td>Course Away Outside U.S.</td>
<td>4 - 16 wks</td>
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<td>PATH 8600</td>
<td>Research in Pathology</td>
<td>2 - 12 wks</td>
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<td>Path 8630</td>
<td>Research Path Outside CO</td>
<td>4 - 12 wks</td>
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<tr>
<td>Path 8640</td>
<td>Research Path Out of U.S.</td>
<td>4 - 12 wks</td>
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## PEDiatric ELECTives

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<tr>
<td>PED 8000</td>
<td>Pediatric Subinternship</td>
<td>4 wks</td>
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<tr>
<td>PED 8004</td>
<td>Pediatric Cardiology</td>
<td>4 wks</td>
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<tr>
<td>Course Code</td>
<td>Course Title</td>
<td>Duration</td>
<td>Max.</td>
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<tr>
<td>PED 8006</td>
<td>Immunology and Allergy</td>
<td>4 wks</td>
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<td>Co-Course Directors, Dan Atkins, M.D. and Robin Deterding, M.D. Course Coordinator, Brenda Lovato, 303-861-6867. 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>
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<td>PED 8007</td>
<td>Child Abuse and Neglect</td>
<td>4 wks</td>
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<td>Co-Course Directors, Andrew Sirotnak, M.D. and Robin Deterding, M.D. Course Coordinator, Brenda Lovato, 303-861-6867. 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>
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<tr>
<td>PED 8008</td>
<td>Birth Defects/ Genetics</td>
<td>4, 6, 8, or 12 wks</td>
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<td>Co-Course Directors, Anne Tsai, M.D. and Robin Deterding, M.D., Course Coordinator, Brenda Lovato, 303-861-6867. Rotation includes experience in the General Genetics, Inherited Metabolic Diseases, Muscle, Neurocutaneous 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>
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<tr>
<td>PED 8009</td>
<td>Peds Infectious Disease</td>
<td>4 wks</td>
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<td>Co-Course Directors, Mary Glode, M.D. and Robin Deterding, M.D., 303-861-6982. Course Coordinator, Brenda Lovato, 303-861-6867. 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>
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<td>PED 8011</td>
<td>Peds Pulmonary Disease</td>
<td>4 or 6 wks</td>
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<td>Co-Course Directors, Robin Deterding, M.D. Course Coordinator, Brenda Lovato, 303-861-6867. 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.</td>
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<tr>
<td>PED 8012</td>
<td>Pediatric Neurology</td>
<td>4, 6, or 12 wks</td>
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<tr>
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<td>Co-Course Directors, Tim Benke, M.D. and Robin Deterding, M.D. Course Coordinator, Brenda Lovato, 303-861-6867. 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.</td>
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<tr>
<td>PED 8013</td>
<td>Pediatric Endocrinology</td>
<td>4 wks</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Co-Course Directors, Michael Kappy, M.D. and Robin Deterding, M.D., Course Coordinator, Brenda Lovato, 303-861-6867. 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.</td>
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<tr>
<td>PED 8015</td>
<td>Peds Neonatology Sub I</td>
<td>4 wks</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Co-Course Directors, Elizabeth Thilo, M.D. and Robin Deterding, M.D. Course Coordinator, Brenda Lovato, 303-861-6867. 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.</td>
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<tr>
<td>PED 8017</td>
<td>Sub I Ambulatory DHMC</td>
<td>4 wks</td>
<td>1</td>
</tr>
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<td></td>
<td>Co-Course Directors, Simon Hambidge, M.D. and Robin Deterding, Course Coordinator, Brenda Lovato, 303-861-6867. 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.</td>
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<tr>
<td>PED 8018</td>
<td>General Academic Peds</td>
<td>4 wks</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Co-Course Directors, Robert Brayden, M.D. and Robin Deterding, M.D. Course Coordinator, Brenda Lovato, 303-861-6867. This course offers exciting experience in ambulatory pediatrics at The Children’s Hospital. There are 9 educational conferences per week. No night call.</td>
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<tr>
<td>PED 8020</td>
<td>Adolescent Medicine</td>
<td>4 wks</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Co-Course Directors, Paritosh Kaul, M.D. and Robin Deterding, M.D. Course Coordinator, Brenda Lovato, 303-861-6867. 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.</td>
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</tbody>
</table>
PED 8022  
**Peds Gastroenterology**
4 wks  
Max: 1
Co-Course Directors, Edward Hoffenberg, M.D. and Robin Deterting, M.D.  
Course Coordinator, Brenda Lovato, 303-861-6867.
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 Robin Deterting, M.D.  
Course Coordinator, Brenda Lovato, 303-861-6867.
Medical 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, Glenn Faries, M.D. and Robin Deterting, M.D.  
Course Coordinator, Brenda Lovato, 303-861-6867.
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 Robin Deterting, M.D.  
Course Coordinator, Brenda Lovato, 303-861-6867.
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 8029  
**Breastfeeding Management**
2 wks  
Max: 2
Course Directors, Nancy Krebs, M.D. and Maya Bunik, M.D., 720-777-3890.
Elective provides an introduction to breastfeeding as a medical topic, with precepting by lactation specialists at clinical sites and self-directed learning through complementary activities.  
Assessment of mother/infant breastfeeding dyad and management of breastfeeding problems is emphasized.  
Students contact Dr. Witter.

PED 8100  
**Course Away in Denver**
2 - 16 wks
Course Director, Robin Deterting, M.D.  
Course Coordinator, Brenda Lovato, 303-861-6867.
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. Robin Deterting (303-861-6918) 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, Robin Deterting, M.D.  
Course Coordinator, Brenda Lovato, 303-861-6867.
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.
## Physical Medicine and Rehabilitation Electives

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Duration</th>
<th>Max:</th>
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</thead>
<tbody>
<tr>
<td>PHMD 8000</td>
<td>Physical Med &amp; Rehab</td>
<td>4 wks</td>
<td>4</td>
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<tr>
<td></td>
<td>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.</td>
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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Duration</th>
<th>Max:</th>
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</thead>
<tbody>
<tr>
<td>PHMD 8100</td>
<td>Course Away In Denver</td>
<td>2 - 8 wks</td>
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<tr>
<td></td>
<td>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.</td>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Duration</th>
<th>Max:</th>
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<tbody>
<tr>
<td>PHMD 8200</td>
<td>Course Away In Colorado</td>
<td>2 - 8 wks</td>
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<tr>
<td></td>
<td>Course description and requirements same as PHMD 8100.</td>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Duration</th>
<th>Max:</th>
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<tbody>
<tr>
<td>PHMD 8300</td>
<td>Course Away Outside Colo</td>
<td>4 - 8 wks</td>
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<td></td>
<td>Same as PHMD 8100 with prior approval but no prerequisite PHMD 8000 (although recommended) if visiting an ACGME accredited residency program.</td>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Duration</th>
<th>Max:</th>
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</thead>
<tbody>
<tr>
<td>PHMD 8600</td>
<td>Research Physical Med</td>
<td>2 - 12 wks</td>
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<tr>
<td></td>
<td>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.</td>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Duration</th>
<th>Max:</th>
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</thead>
<tbody>
<tr>
<td>PHMD 8630</td>
<td>Research PHMD Outside CO</td>
<td>4 - 12 wks</td>
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<td></td>
<td>Same as PHMD 8600 with prerequisite PHMD 8000 or 8300.</td>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Duration</th>
<th>Max:</th>
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<tbody>
<tr>
<td>PHMD 8640</td>
<td>Research PHMD Out Of U.S</td>
<td>4 - 12 wks</td>
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<td></td>
<td>Course description and requirements same as PHMD 8630</td>
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## Preventive Medicine Electives

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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Duration</th>
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<tbody>
<tr>
<td>PRMD 8003</td>
<td>Specialty Preventive Med</td>
<td>4 - 8 wks</td>
<td>4</td>
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<td>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.</td>
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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Duration</th>
<th>Max:</th>
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</thead>
<tbody>
<tr>
<td>PRMD 8006</td>
<td>Dir Study Ethics/Humanit</td>
<td>2 - 8 wks</td>
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<tr>
<td></td>
<td>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.</td>
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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Duration</th>
<th>Max:</th>
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</thead>
<tbody>
<tr>
<td>PRMD 8100</td>
<td>Course Away In Denver</td>
<td>2 - 12 wks</td>
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<tr>
<td></td>
<td>Course Director, Tim Byers, M.D., M.P.H., 303-315-5169. Prerequisites: 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.</td>
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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Duration</th>
<th>Max:</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRMD 8200</td>
<td>Course Away In Colorado</td>
<td>2 - 16 wks</td>
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<tr>
<td></td>
<td>Course description is the same as PRMD 8100.</td>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Duration</th>
<th>Max:</th>
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</thead>
<tbody>
<tr>
<td>PRMD 8300</td>
<td>Course Away Outside Colo</td>
<td>4 - 16 wks</td>
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<tr>
<td></td>
<td>Course description is the same as PRMD 8200.</td>
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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Duration</th>
<th>Max:</th>
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</thead>
<tbody>
<tr>
<td>PRMD 8400</td>
<td>Course Away Outside U.S</td>
<td>4 - 16 wks</td>
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<tr>
<td></td>
<td>Course Director, Tim Byers, M.D., M.P.H., 303-315-5169. 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.</td>
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### PSYCHIATRY ELECTIVES

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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</tr>
</thead>
<tbody>
<tr>
<td>PRMD 8600</td>
<td>Research Preventive Med</td>
<td>4 - 12 wks</td>
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</tr>
<tr>
<td>PRMD 8630</td>
<td>Research PRMD Outside CO</td>
<td>4 - 12 wks</td>
<td></td>
</tr>
<tr>
<td>PRMD 8640</td>
<td>Research PRMD Out Of U.S</td>
<td>4 - 12 wks</td>
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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Max</th>
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</thead>
<tbody>
<tr>
<td>PSCH 8000</td>
<td>Sub I in Psychiatry</td>
<td>4 - 6 wks</td>
<td>3</td>
</tr>
<tr>
<td>PSCH 8001</td>
<td>“Big Six” Substance Prob</td>
<td>2 - 4 wks</td>
<td>2</td>
</tr>
<tr>
<td>PSCH 8100</td>
<td>Course Away In Denver</td>
<td>2 - 8 wks</td>
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<tr>
<td>PSCH 8200</td>
<td>Course Away In Colorado</td>
<td>2 - 8 wks</td>
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<tr>
<td>PSCH 8300</td>
<td>Course Away Outside Colo</td>
<td>4 - 8 wks</td>
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<tr>
<td>PSCH 8400</td>
<td>Course Away Outside U.S</td>
<td>4 - 8 wks</td>
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<tr>
<td>PSCH 8600</td>
<td>Research in Psychiatry</td>
<td>2 - 12 wks</td>
<td>3</td>
</tr>
<tr>
<td>PSCH 8610</td>
<td>Research Drug/Alcohol</td>
<td>2 - 12 wks</td>
<td>2</td>
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<tr>
<td>PSCH 8630</td>
<td>Research PSCH Outside CO</td>
<td>4 - 12 wks</td>
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</table>

**Note:** Prerequisites and course requirements vary. Please consult the course descriptions for detailed information.
## RADIOLOGY ELECTIVES

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Duration</th>
<th>Max:</th>
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<tbody>
<tr>
<td>RAD 8000</td>
<td>Diagnostic Radiology</td>
<td>4 wks</td>
<td>5</td>
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<tr>
<td></td>
<td>Course Director, Carol M. Rumack, M.D. Course Coordinator, Tina Kutsuma, 303-372-6136. 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.</td>
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<tr>
<td>RAD 8002</td>
<td>Nuclear Medicine</td>
<td>4 wks</td>
<td>2</td>
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<tr>
<td></td>
<td>Course Director, Adrienne Sage-El, M.D. Course Coordinator, Tina Kutsuma, 303-372-6136. 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.</td>
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<tr>
<td>RAD 8007</td>
<td>Interventional Radiology</td>
<td>2 - 4 wks</td>
<td>1</td>
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<td></td>
<td>Course Director, Stephen Johnson, M.D. Course Coordinator, Joanne Conklin, 303-372-6141. 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.</td>
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<tr>
<td>RAD 8100</td>
<td>Course Away In Denver</td>
<td>2 - 16 wks</td>
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<td></td>
<td>Course Director, Carol Rumack, M.D. Course Coordinator, Tina Kutsuma, 303-372-6136. 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.</td>
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<tr>
<td>RAD 8300</td>
<td>Course Away Outside Colo</td>
<td>2 - 16 wks</td>
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<tr>
<td></td>
<td>Course description and requirements are the same as RAD 8100.</td>
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<tr>
<td>RAD 8600</td>
<td>Research in Radiology</td>
<td>2 - 12 wks</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Course Director, Carol Rumack, M.D. Course Coordinator, Tina Kutsuma, 303-372-6136. 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 responsible for obtaining written evaluation. 2 week rotation not Honors eligible.</td>
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<tr>
<td>RAD 8630</td>
<td>Research RAD Outside CO</td>
<td>4 - 12 wks</td>
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<td></td>
<td>Course description and requirements are the same as RAD 8600.</td>
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## RADIATION ONCOLOGY ELECTIVES

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<th>Course Code</th>
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<th>Duration</th>
<th>Max:</th>
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<tbody>
<tr>
<td>RAO 8005</td>
<td>Radiation Oncology</td>
<td>4 - 8 wks</td>
<td>2</td>
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<td></td>
<td>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.</td>
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<tr>
<td>RAO 8100</td>
<td>Course Away In Denver</td>
<td>4 - 8 wks</td>
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<td></td>
<td>Course Director, Changhu Chen, M.D., M.S. Course Coordinator, Collette Cielens, 720-848-0154. 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.</td>
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<tr>
<td>RAO 8200</td>
<td>Course Away In Colorado</td>
<td>4 - 8 wks</td>
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<td></td>
<td>Course description same as for RAO 8100.</td>
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<tr>
<td>RAO 8300</td>
<td>Course Away Outside Colo</td>
<td>4 - 8 wks</td>
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<td>Course description same as for RAO 8100.</td>
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<tr>
<td>RAO 8400</td>
<td>Course Away Outside U.S.</td>
<td>4 - 8 wks</td>
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<td></td>
<td>Course description same as for RAO 8100. The student must receive prior approval from the Associate Dean for Student Affairs.</td>
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</tbody>
</table>
RAO 8600 Research RAD Oncology  4 - 12 wks
 Course Director, Changhu Chen, M.D., M.S. Course Coordinator, Collette Cielen, 720-848-0154.
Prerequisite: RAO 8605. 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.

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<th>SURGERY ELECTIVES</th>
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| **SURG 8000 Gen Surg Sub I Univ Hosp**  4 - 12 wks  Max: 4
Course Director, Thomas A. Whitehill, M.D., 303-315-6486. Course Coordinator, Janice Frary, 303-315-4601.
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.

**SURG 8001 Gen Surg Sub I DHMC**  4 or 6 wks  Max: 3
Course Director, Jeff Johnson, M.D. 303-436-6559. Course Coordinator, Bathyah Weiler, 303-436-6559.
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. Student will attend clinics, rounds, conferences and surgical procedures.

**SURG 8002 Gen Surg Sub I St Joseph**  4 wks  Max: 2
Course Director, John T. Moore, M.D. Course Coordinator, Rebecca Schoby, 303-837-7295.
Restrictions: Not available sections Sand 9.
Held at St. Joseph Hospital with emergency and elective surgery. Emphasize pre- and postoperative care.
Graduated operating room experience. Housestaff team assignments. Active daily conferences, including M and M, with radiologic and pathologic collation.

**SURG 8004 Emergency Med Univ Hosp**  4 wks  Max: 4
Course Director, Ravi Mochi, M.D., 303-372-5252. Course Coordinator, Marybeth Hutchins, 303-372-5503.
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.

**SURG 8005 Emergency Medicine DHMC**  4 wks  Max: 1
Course Director, Vince Markovich, M.D. Course Coordinator, TBA, 303-436-7129.
Student is primary caregiver 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.

**SURG 8006 Emer Med Career Elective**  4 wks  Max: 3
Course Director, Vince Markovich, M.D. Course Coordinator, TBA, 303-436-7129.
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.

**SURG 8008 Cardiothoracic Surg Sub**  4 wks  Max: 2
Course Director, David Fullerton, M.D. Course Coordinator, Kami Fugate, 303-315-4797.
Adult cardiac and general thoracic surgery and critical care monitoring on the Cardiothoracic Service at UH and
Denver VAMC. Students will participate in preoperative, operative and postoperative care.

**SURG 8010 Burn Critical Care/Surg**  4 or 6 wks  Max: 1
Course Director, Gordon K. Lindberg, M.D., Ph.D., 303-315-7062. Course Coordinator, Randall Streiffert, 303-315-7062.
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.

**SURG 8011 Hand Surgery**  4 wks  Max: 1
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.
**SURG 8012  Urology Subinternship**  
Course Director, Robert Donohue, M.D., 303-315-5942. Course Coordinator, TBA.  
2 or 4 wks  Max: 4

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.

**SURG 8015  Pediatric Surgery**  
Course Director, Frederick Karrer, M.D., Course Coordinator, Deanna Spaulding, 303-861-6530 at TCH.  
2, 4, or 6 wks  Max: 1

Student will assume major clinical responsibility for pediatric 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**  
Course Director, Mark Nehier, M.D., 303-315-8552. Course Coordinator, Janice Frary, 303-315-4601.  
4 - 12 wks

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**  
Course Director, Jeff Johnson, M.D., 303-436-6559. Course Coordinator, Batyah Weiler, 303-436-6559.  
4, 6 or 8 wks  Max: 2

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**  
Course Director, Kennon Heard, M.D., 303-739-1264. Course Coordinator, Becky Holmes, 303-739-1240.  
4 wks  Max: 2

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**  
Course Director, Michael Wachs, M.D., 303-372-8750. Course Coordinator, Jody Mandic, 303-372-8731.  
2 - 4 wks  Max: 3

Medical student will round with transplant team, which includes: Surgeons, Nephrologists, and Hepatologists. They will be exposed to all aspects of transplant care including pre-operative work up, donor surgery, transplant surgery, and post-operative care.

**SURG 8100  Course Away In Denver**  
Course Director, Thomas A. Whitehill, M.D., 303-315-6486. Course Coordinator, Janice Frary, 303-315-4601.  
2 - 16 wks

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**  
Restrictions: Sections 49-50 not available.  
Course description and requirements same as SURG 8100.  
2 - 16 wks

**SURG 8300  Course Away Outside Colo**  
Restrictions: Sections 49-50 not available.  
Course description and requirements same as SURG 8100.  
4 - 16 wks

**SURG 8400  Course Away Outside U.S.**  
Course Director, Thomas A. Whitehill, M.D., 303-315-6486. Course Coordinator, Janice Frary, 303-315-4601.  
2 - 16 wks

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**  
Course Director, Thomas A. Whitehill, M.D., 303-315-6486. Course Coordinator, Janice Frary, 303-315-4601.  
2 - 12 wks

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**  
Course Director, Thomas A. Whitehill, M.D., 303-315-6486. Course Coordinator, Janice Frary, 303-315-4601.  
4 - 12 wks

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  2 – 12 wks
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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Instructor(s)</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>DPTR 5001</td>
<td>Clinical Anatomy I</td>
<td>5.0 cr.</td>
<td>N. Bookstein, PT, EdD; D. James, PT, MS.</td>
<td>Matriculation in entry-level Physical Therapy Program. Regional approach to the 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. Cross sectional and radiographical anatomy are included. Soft tissue palpation is emphasized.</td>
</tr>
<tr>
<td>DPTR 5002</td>
<td>Foundations in Physical Therapy</td>
<td>2.0 cr.</td>
<td>J. Rodriguez, PT, MHS</td>
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<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>
<td></td>
</tr>
<tr>
<td>DPTR 5003</td>
<td>Histology</td>
<td>2.0 cr.</td>
<td>R.O’Hara, PT, MS; K. Maluf, PT, PhD</td>
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<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>
<tr>
<td>DPTR 5111</td>
<td>Exercise Science</td>
<td>2.0 cr.</td>
<td>E. Melanson, PhD</td>
<td>DPTR 5001</td>
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<td></td>
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<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>
<tr>
<td>DPTR 5201</td>
<td>Clinical Skills: Examination/Evaluation I</td>
<td>1.0 cr.</td>
<td>D. Stelzner, PT, MBA</td>
<td>DPTR 5001, DPTR 5201.</td>
</tr>
<tr>
<td></td>
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<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, Summer Semester

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Instructor(s)</th>
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</tr>
</thead>
<tbody>
<tr>
<td>DPTR 5101</td>
<td>Movement Science I</td>
<td>3.0 cr.</td>
<td>PT Faculty</td>
<td>DPTR 5001</td>
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<tr>
<td></td>
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<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>
<tr>
<td>DPTR 5141</td>
<td>Human Growth and Development</td>
<td>2.0 cr.</td>
<td>A. Bodkin, PT, MS</td>
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<td></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>
<td></td>
</tr>
<tr>
<td>DPTR 5151</td>
<td>Motor Control/Motor Learning</td>
<td>2.0 cr.</td>
<td>J. Valvano, PT, PhD</td>
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<td></td>
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<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>Psychosocial Aspects of Care I</td>
<td>1.0 cr.</td>
<td>D. Stelzner, PT, MBA</td>
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<tr>
<td></td>
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<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>Clinical Skills: Examination/Evaluation II</td>
<td>2.0 cr.</td>
<td>D. Stelzner, PT, MBA</td>
<td>DPTR 5001, DPTR 5201.</td>
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<tr>
<td></td>
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<td></td>
<td>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.</td>
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</table>

FIRST YEAR, Fall Semester

<table>
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<tr>
<th>Course Code</th>
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<th>Instructor(s)</th>
<th>Prerequisites</th>
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</thead>
<tbody>
<tr>
<td>DPTR 5101</td>
<td>Movement Science I</td>
<td>3.0 cr.</td>
<td>PT Faculty</td>
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<tr>
<td></td>
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<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>
<tr>
<td>DPTR 5141</td>
<td>Human Growth and Development</td>
<td>2.0 cr.</td>
<td>A. Bodkin, PT, MS</td>
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<tr>
<td></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>
<td></td>
</tr>
<tr>
<td>DPTR 5151</td>
<td>Motor Control/Motor Learning</td>
<td>2.0 cr.</td>
<td>J. Valvano, PT, PhD</td>
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<tr>
<td></td>
<td></td>
<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>
<td>DPTR 5161</td>
<td>Psychosocial Aspects of Care I</td>
<td>1.0 cr.</td>
<td>D. Stelzner, PT, MBA</td>
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<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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<td>DPTR 5202</td>
<td>Clinical Skills: Examination/Evaluation II</td>
<td>2.0 cr.</td>
<td>D. Stelzner, PT, MBA</td>
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<tr>
<td>DPTR 5203</td>
<td>Clinical Skills: Therapeutic Intervention</td>
<td>4.0 cr.</td>
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<td>S. Jordan, PT, MA</td>
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<td></td>
<td>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.</td>
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<tr>
<td>DPTR 5601</td>
<td>Scientific Inquiry I</td>
<td>1.0 cr.</td>
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<tr>
<td>J. Hebert, PT, MS</td>
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<td>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.</td>
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**FIRST YEAR, Spring Semester**

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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 5006</td>
<td>Physiology</td>
<td>2.0 cr.</td>
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<tr>
<td>W. Betz, PhD</td>
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<tr>
<td></td>
<td>Fundamentals of human physiology from basic cellular processes such as membrane support, to the organization and control of organ systems.</td>
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<tr>
<td>DPTR 5011</td>
<td>Neuroscience</td>
<td>3.0 cr.</td>
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<tr>
<td>R. Gisbert, MSPT; M. Schenkmman, PT, PhD</td>
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<td></td>
<td>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.</td>
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<tr>
<td>DPTR 5162</td>
<td>Psychosocial Aspects of Care II/Interprofessional Ethics</td>
<td>2.0 cr.</td>
</tr>
<tr>
<td>D. Stelzner, PT, MBA</td>
<td>DPTR 5161.</td>
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<tr>
<td></td>
<td>Continuation of discussions involving the dynamics of professional-patient caring relationships. Interprofessional student discussions including an introduction to critical reasoning, and reflective deliberation required within ethical dimensions.</td>
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<tr>
<td>DPTR 5301</td>
<td>Medical Conditions I</td>
<td>2.0 cr.</td>
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<tr>
<td>N. Bookstein, PT, EdD</td>
<td>DPTR 5111.</td>
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<td></td>
<td>Pathology and physical therapy management of cardiovascular and respiratory system diseases, and integumentary conditions across the life span. Review of anatomy, physiology, EKG, exercise testing/training, endurance/cardiac laboratories, cardiac rehabilitation, pulmonary assessment/intervention, wellness and prevention, and burn and wound care.</td>
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<tr>
<td>DPTR 5401</td>
<td>Musculoskeletal Conditions I</td>
<td>3.0 cr.</td>
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<tr>
<td>P. Mintken, PT, MS, DPT, OCS</td>
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<td></td>
<td>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.</td>
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<tr>
<td>DPTR 5611</td>
<td>Patient Care Seminar I</td>
<td>2.0 cr.</td>
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<tr>
<td>T. Struessel, PT, DPT, OCS, MTC</td>
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<td></td>
<td>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.</td>
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<tr>
<td>DPTR 5931</td>
<td>Clinical Education I</td>
<td>2.0 cr.</td>
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<tr>
<td>J. Rodriguez, PT, MHS</td>
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<td>Four week full-time supervised clinical experience. Professional values and behaviors developed, relevant questions raised, knowledge applied, clinical skills practiced.</td>
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</table>

**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>DPTR 6002</td>
<td>Clinical Anatomy II</td>
<td>3.0 cr.</td>
</tr>
<tr>
<td>N. Bookstein, PT, EdD</td>
<td>DPTR 5001, DPTR 5101, DPTR 5011.</td>
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<tr>
<td></td>
<td>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.</td>
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<tr>
<td>DPTR 6102</td>
<td>Movement Science II</td>
<td>1.0 cr.</td>
</tr>
<tr>
<td>C. Johnson, PT, OHT</td>
<td>DPTR 5001, DPTR 5101.</td>
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<tr>
<td></td>
<td>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.</td>
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</tbody>
</table>
DPTR 6402  Musculoskeletal Conditions 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 Conditions 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, and evaluation (including prognosis, diagnosis, and goals) analyzed.

DPTR 6701  Professional Topics I: 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  Clinical Skills: Prosthetics and Orthotics  
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 Conditions 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 Conditions 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. Struesel, 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 Conditions III  3.0 cr.
A. Bodkin, PT, PhD, PCS  Prereq: DPTR 6502.
Principles of PT management for individuals with neurological conditions continued. Refinement of clinical decision making and skills for individuals with disorders such as Parkinson’s disease, vestibular dysfunction, and pediatric conditions. Return to community and quality of life emphasized.

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  Professional Topics II: Differential Diagnosis in Practice  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. Emphasis on patient/client and family education, including home programs, clinical teaching, and presentations in community and physical therapy settings.

DPTR 6912  Field Work II  1.0 cr.
J. Rodriguez, 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. Rodriguez, 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  Professional Topics III: 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.
DPTR 7711  **Health Care Delivery**  4.0 cr.
T. Struessel, PT, DPT, OCS, MTC
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.

DPTR 7731  **Complementary and Alternative Medicine**  1.0 cr.
S. Jordan, PT, MA
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.

DPTR 7741  **Special Practice Settings**  2.0 cr.
A. Bodkin, PT, MS; A. Nordon-Craft, PT, MA; C. Johnson, PT, CHT
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.

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<tr>
<th>THIRD YEAR, Fall Semester</th>
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<tr>
<td>DPTR 7131 <strong>Radiology</strong>   1.0 cr.</td>
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P. Mintken, PT, MS, DPT, OCS
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.

| DPTR 7751 **Health Promotion**  2.0 cr. |
E. Melanson, PhD; C. Figuers, PT, EdD; C. Jankowski, PhD
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.

| DPTR 7933 **Clinical Education III**  8.0 cr. |
J. Rodriguez, PT, MHS
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.

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<tr>
<th>THIRD YEAR, Spring Semester</th>
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<tr>
<td>DPTR 7613 <strong>Patient Care Seminar III</strong>  2.0 cr.</td>
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</table>
T. Struessel, PT, DPT, OCS, MTC  Prereq: DPTR 6612.
Critical thinking and clinical decision making skill development continued and applied to actual patients. Written case analyses are completed; oral presentations.

| DPTR 7934 **Clinical Education IV**  8.0 cr. |
J. Rodriguez, PT, MHS
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.

| Independent Study  1.0-3.0 cr. |
PT Faculty
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.

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<th>TRANSITION DPT</th>
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<tr>
<td>DPTR 8111 <strong>Evidence-Based Practice</strong>  2.0 cr.</td>
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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.
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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tr>
<td>DPTR 8112</td>
<td><strong>Professional Development</strong></td>
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<td>Study and application of principles of the</td>
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<td>doctoring profession of physical therapy.</td>
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<td>management positions in physical therapy</td>
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<td>and healthcare. Emphasis on plans for</td>
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<td>ongoing professional growth.</td>
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<td>DPTR 8211</td>
<td><strong>Patient Care Seminar I</strong></td>
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<td>M. Schenkman, PT, PhD Pre/Co-req: DPTR 8111</td>
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<td>Critical thinking and clinical decision</td>
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<td>making skills. Application of clinical</td>
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<td>decision making frameworks and models for</td>
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<td>clinical practice. Patients with</td>
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<td>musculoskeletal, neuromuscular, and medical</td>
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<td>conditions across the life span emphasized.</td>
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<td>DPTR TBD</td>
<td>**Current Concepts in Motor Control and</td>
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<td>Motor Learning**</td>
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<td>J. Valvano, PT, PhD</td>
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<td>Current concepts in motor control and motor</td>
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<td>practice are reviewed through guided</td>
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<td>independent study and online tutorials.</td>
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<td>Emphasis is on updating the theoretical</td>
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<td>base required for application of these</td>
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<td>concepts into clinical practice.</td>
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<td>DPTR 8212</td>
<td><strong>Radiology</strong></td>
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<td>V. Akuthota, MD; D. James, MSPT, OCS, CSCI</td>
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<td>Application and integration of diagnostic</td>
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<td>imaging to physical therapy clinical</td>
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<td>decision making. Students learn to interpret</td>
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<td>and evaluate pertinent diagnostic imaging</td>
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<td>DPTR 8213</td>
<td><strong>Health Promotion</strong></td>
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<td>E. Melanson, PhD</td>
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<td>DPTR 8312</td>
<td><strong>Patient Care Seminar II</strong></td>
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<td>M. Schenkman, PT, PhD</td>
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<td>Seminar providing students with opportunities</td>
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<td>presentation of case content emphasized.</td>
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<td>DPTR 8313</td>
<td><strong>Pharmacology</strong></td>
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<td>R. Page, PharmD; T. French, PhD</td>
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<td>Online course designed to help the learner</td>
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<td>for different drug classes included.</td>
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<td>DPTR 8314</td>
<td><strong>Differential Diagnosis in Practice</strong></td>
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<td>S. Jordan, PT, MA</td>
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SCHOOL OF NURSING
Undergraduate Courses

**NURS 3001  Introduction to Health Assessment  3.0 cr.**
This course introduces skills of health assessment of persons across the lifespan. Content will be presented in didactic sessions and application will occur in laboratory.

**NURS 3002  Fundamentals of Nursing  4.0 cr.**
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. Human care concepts are integrated throughout the clinical content of the course. with human care concepts integrated throughout the clinical content.

**NURS 3003  Pharmacology  3.0 cr.**
Prereq: NURS 3001, NURS 3103.
Lecture course of introductory 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 and implications for monitoring, drug administration, and patient education emphasized.

**NURS 3103  Pathophysiology  3.0 cr.**
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.

**NURS 3307  Nursing Care of Childbearing Families  6.0 cr.**
Prereq: NURS 3001, NURS 3002, NURS 3003, NURS 3013.
Course focuses on application of knowledge to clinical practice relating to care of childbearing families. Students explore factors affecting individuals and families during the experience of childbirth within the context of clinical judgment and critical thinking from a caring framework.

**NURS 3407  Nursing Care of Children & Adolescents  6.0 cr.**
Prereq: NURS 3002, NURS 3103, NURS 3999.
Nursing process directed toward health promotion and maintenance, disease prevention and health restoration for the child, adolescent and family is utilized in clinical practice, laboratory experience and class. Subsystem/pattern variation receives particular emphasis.

**NURS 3507  Mental Health Nursing  6.0 cr.**
Prereq: NURS 3001, NURS 3002, NURS 3003, NURS 3103, NURS 3999.
Focuses on nursing care of adolescents and adults in promotion and restoration of mental health within a variety of clinical settings. Assessments and treatment approaches based on nursing diagnosis and DSM IV classifications will be incorporated into class lectures and clinical practice.

**NURS 3999  Nursing Care of Adults and Older Adults  6.0 cr.**
Prereq: NURS 3002, NURS 3003, NURS 3103.
Nursing care of adults and older adults directed toward health promotion, disease prevention, maintenance and restoration of health emphasized in both theory and clinical practice. The concepts of health, illness, healing, and dying are investigated from a human science/caring perspective.

**NURS 4020  Nursing Research  3.0 cr.**
Prereq: Undergraduate statistics course.
Introduces foundational concepts 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 use in clinical practice is an integral component of the course.

**NURS 4050  Professional Nursing: Reflective Practice, Foci, Issues & Trends  3.0 cr.**
Prereq: NURS3001, 3002, 3003, 3103.
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.

**NURS 4051  Professional Nursing: Reflective Practice, Social Justice, Issues & Trends  3.0 cr.**
Prereq: NURS3001, 3002, 3003, 3103.
This course is 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. The course explores practice foci for theory-guided, evidence-based reflective nursing practice.
NURS 4070  Professional Nursing: Environmental Context for Practice: Bioethical & Legal Foundations  3.0 cr.
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.

NURS 4083  Nutrition & Feeding of Children and Youth  3.0 cr.
This course integrates social justice with reflective practice relationship centered caring and diversity in a community service project with student participation; it consists of an introduction to and reflection on nurses as agents of social justice.

NURS 4097  Nursing Care of Adults with Complex Disease Processes  6.0 cr.
Prereq: NURS 3999.
Nursing Care directed toward maintenance and restoration of health for adults experiencing multiple, complex health alterations in both theory and clinical practice. Advanced concepts in understanding health, illness, dying, and death will be considered using a human science/caring perspective.

NURS 4128  Senior Integrated Practicum  Variable cr.
Synthesis of theory, research, and practice to facilitate clinical reasoning for quality care and clinical outcomes improvement. Leadership and management competencies in organizational skills, communication, conflict management, delegation, interdisciplinary collaboration, and decision-making support successful transition into practice and professional development.

NURS 4207  Public Health Nursing  6.0 cr.
Prereq: NURS 3307, NURS 3407, NURS 3999, NURS 4020.
Students learn the structure and functions of public health services; apply principles of environmental health and epidemiology; provide nursing care to vulnerable and diverse families; and develop and implement a health promotion and/or disease prevention program with a community-based population.

NURS 4303  Nursing Care of Women in High Risk Pregnancies  1.0 cr.
This elective course focuses on nursing care of women in high risk pregnancies. Assessment, care management, critical thinking, and the role of the nurse in the care of high risk pregnant patients are emphasized.

NURS 4403  Critical Care Pediatrics  1.0 cr.
This elective course focuses on nursing management of critically ill, chronically ill and/or other high-risk children. Assessment, care management, critical thinking, and the role of the nurse in the care of high-risk pediatric patients are emphasized.

NURS 4517  Health Assessment  2.0-3.0 cr.
This is a basic health assessment course for students who are enrolled in the UCHSC, RN-BSN program.

NURS 4593  Nursing Care/Case Management  6.0 cr.
Innovative, integrated nursing case/care 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 health care delivery are evaluated within the context of care management.

NURS 4727  Independent Study  Variable cr.

NURS 4742  Advanced Concepts in Palliative Care  3.0 cr.
An 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.

NURS 4745  Complex Symptom Management in Palliative Care Nursing  3.0 cr.
An advanced theory course focusing on complex symptom management in palliative care 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 advanced practice nurse will be explored.

NURS 4757  Nursing Summer Externship*  3.0 cr.
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.

NURS 4836  Special Topics*  Variable cr.
This course is a special topic selected each semester.
**NURS 4911  Nursing Foundations in Social Justice  1.0 cr.**

This course integrates social justice with reflective practice, relationship centered care, and diversity in a community service project with student participation; it consists of an introduction to and reflection on nurses as agents of social justice.

*Nursing Electives - offerings contingent on available faculty and sufficient enrollment.*

**Note:** Courses in the School 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

**Doctor of Nursing Practice (DNP) and Nursing Doctorate Courses (N.D.)**

**NUDO 6041  Emerging Therapies & Healing Traditions in Holistic Nursing  2.0 cr.**

Coreq: NUDO6055.

A course in emerging therapies and healing traditions is based on the wisdom of indigenous and alternative health care around the world. Advances in application of healing modalities will be introduced including nanotechnology and vibrational therapies. Integration of knowledge and holistic nursing practice will be emphasized.

**NUDO 6052  Context of Patient, Population and Practice Management  6.0 cr.**

This course explores innovative and integrative population and disease management care models within the context of today's health care delivery system. Focus is placed on the individual's and the agency's accountability, interdisciplinary collaboration, timeliness, continuity of care, and cost effectiveness. National standards and industry benchmarks are reviewed and used to guide quality improvement initiatives. The clinical experience complements the didactic part of this course. Students will work in a disease management or population management department and develop skills in complex care planning, stratification of populations, organizational assessment, program development, and evaluation. The rapid cycle change process, as a means of initiating program improvement, is introduced and implemented in this course.

**NUDO 6055  Applied Evidence-Based Practice  3.0 cr.**

Prereq: NURS6011, NURS6493.

This course focuses on using research and evidence sources, clinical judgment, and patient values and preferences in practice. Advanced skills in critical appraisal and knowledge of organizational culture and change theory are emphasized to support implementation of evidence-driven clinical decisions by the advanced practice nurse.

**NUDO 6057  Designing Theory-Guided Models of Care  2.0 cr.**

Prereq: NURS6010.

This course builds on an overview course on nursing philosophy and theory, and focuses on the application of theories in nursing and other disciplines to guide practice and design transformative models of health care. Grand, middle-range, and practice level theories will be analyzed for their application potential, and students will develop models for practice in their specialty area based on these theories.

**NUDO 6058  Practice Epistemology: Expanding Ways of Knowing for Reflective Practice  3.0 cr.**

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.

**NUDO 6059  Cultural Competence for Advanced Practice  2.0 cr.**

Addresses cultural perspectives on clinical care, including the frameworks and methods used successfully by clinicians to assess cultural preferences, express expectations, negotiate treatment plans and modify care to accommodate provide-patient differences and patient and family expectations.

**NUDO 7001  Portfolio Evaluation  1.0 cr.**

The purpose of the portfolio 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. The portfolio review is available only for graduates of the University of Colorado's Nursing Doctorate Program with a Masters in Nursing from any accredited school.

**NUDO 8010  DNP Leadership Role Residency  4.0 cr.**

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.
NUDO 8018 DNP Capstone Clinical Evaluation Project 3.0 cr.
Prereq: NURS7018, NUDO6055, 6052 NUDO8010.
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.

NURS 6013 Human Technology Interface 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 6113 Studies in Health Promotion and 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 6303 Epidemiology & Environmental Health 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 Information for 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 6305 Health Care Financial Management 3.0 cr.
Examines concepts of health care financial management. Tools and techniques which facilitate financial analysis and decision-making for patient care programs across the healthcare continuum are emphasized. Focuses on efficient, effective management of resources for delivery of quality healthcare services.

NURS 6493 Inferential Statistics in 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 6673 System Assessment, Program Design and Evaluation 3.0 cr.
Prereq: NURS 6011.
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.

NURS 6761 Advanced Assessment 3.0 cr.
Prereq: Basic Assessment.
Advanced skills in interviewing, physical examination, diagnostic tools, diagnostic thinking and documentation required for APN who provide care for clients across the lifespan. Case study analysis is used to expose students to common complaints seen in their clinical practice settings.

Note: Courses in the School 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://www.uchsc.edu/nursing/studentcentral. BS in Nursing or permission of instructor is required for enrollment in Master's Program courses or permission of instructor. Intensive Courses: Intensive courses are short format, less than five weeks. An intensive course may be followed by an optional module or module courses. An intensive course offering that is a prerequisite to other modules/course offerings must be successfully completed with a grade of "B" before the student can proceed in additional module offerings. Dropping intensive classes: Students who drop from an intensive class before the second class meeting will not be charged tuition for the intensive class. Students who drop or withdraw after the second class meeting will be responsible for all tuition and fees. Module Courses: Modules are classes lasting
five or more weeks but less than full term. Some modules may have a required prerequisite intensive or module course, which must be successfully completed with a minimum grade of "B" before continuing in additional module classes. Dropping module courses: Tuition will be adjusted if the module course is dropped prior to the third class meeting or after the second day of class. Students who drop or withdraw after the third class meeting will be responsible for all tuition and fees.

NURS 6010  Philosophical, Theoretical and Ethical Foundations for Advanced Practice Nursing  
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  Human Technology Interface  
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  Health Systems, Policy and Social Justice  
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  Research Methods for Advanced Practice  
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  Gerontological Nursing: Advanced Practice Concepts  
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  Studies in Health Promotion and 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  Foundations for Healing Practice  
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  Caring Inquiry: Narrative as Exemplar  
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 inter-subjective engagement. Caring ethics proposed as the relational narrative describing equilibrium in nurse-patient relationship.

NURS 6124  Health Care as Spiritual Practice  
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  Advanced Acute & Critical Care Nursing Practice I  
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 6221  Advanced Acute & Critical Care Nursing Practice II  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 neurologic, gastrointestinal, renal, and mental health system disorders; neoplasia; substance abuse; complementary therapies; end-of-life care; role integration and professional issues.

NURS 6222  Advanced Pharmacology and 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. 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  Human Computer Interaction Design  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  Information Systems Life Cycle  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  Database Management Systems  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 & Environmental Health  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 Information for 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 6305  Health Care Financial Management  3.0 cr.
Examines concepts of health care financial management. Tools and techniques which facilitate financial analysis and decision-making for patient care programs across the healthcare continuum are emphasized. Focuses on efficient, effective management of resources for delivery of quality healthcare services.

NURS 6343  Women’s Gynecologic Health Care  1.0-3.0 cr.
Prereq: NURS 6222, 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 the 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 post-natal periods.

NURS 6372  Care During Pregnancy and Birth  1.0 cr. 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; 2cr. Intrapartum in 3 cr. section].
Credit 1: Provides overview and management of low-risk prenatal and postnatal care of women.
Credits 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 6383  Care of Women in Alternative Birth Settings  2.0 cr.
Prereq: NURS6373, NURS6755.
Covered topics will include the history of midwifery and birth, evidence supporting out of hospital birth, and the culture of birth in this country and its impact on society. Students will develop the advanced skills needed for providing care to women in alternative birth settings.

NURS 6433  Health and Education Needs of Young Children with Disabilities  2.0 cr.
Prereq: Enrollment in Leadership Option: Care of Children with Disabilities/Chronic Illnesses and their Families. Content on theories of child development, the family, culture, and the environment is addressed.

NURS 6437  Care of Children: Well Child Care  1.0-4.0 cr.
Prereq/Coreq: NURS 6761, NURS 67655 or NURS 67565 or NURS 67575.
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 6443  Ethics & Genetics: Caring for Children with Disabilities and Chronic Conditions  3.0 cr.
Prereq: Eligible as elective for upper division BSN, MS, ND, and PhD students. Utilizes case studies identifying genetic conditions that present ethical dilemmas requiring interdisciplinary consultation. Student’s ethical, professional identity explored as an outcome of the course.

NURS 6487  PHC of Children: Minor Acute Illness  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 in 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  PHC of Children: Chronic Illness & Disabilities  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.

NURS 6499  PHC of Children with Special Needs Disabilities  1.0 cr.
Coreq: NURS6758, NURS6761, NURS6477.
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.

NURS 6505  Systems & Community-Based Care for Children with Special Needs  4.0 cr.
Prereq: Enrollment in PSN Masters/Post-Masters.
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.

NURS 6593  Nursing Care/Case Management  3.0 cr.
Prereq: NURS6755.
Innovative, integrated nursing case and care management models within the context of today’s managed care delivery system are considered in this course. Accountability, interdisciplinary collaboration, continuity of care, timeliness, and cost effectiveness of health care delivery are evaluated within the context of case management.

NURS 6633  Advanced Public Health Nursing  3.0 cr.
Prereq: NURS 6010, NURS6011.
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.

NURS 6663  Leadership and Management  4.0 cr.
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.

NURS 6673  System Assessment, Program Design and Evaluation  3.0 cr.
Prereq: NURS 6011.
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.

NURS 6693  Management of Patient Care Services  3.0 cr.
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.

NURS 6742  Advanced Practice in Acute and Critical Care Nursing  3.0 cr.
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.
Focuses on diagnosis and collaborative care management of acute and critical illness in adults by Advanced Practice Nurses. Content includes advanced skill development and theory, and evidence-based disease management, health promotion, cultural care, chronotherapeutics, supplementary care, immunocompetence, code management, and APN role integration.

NURS 6744  Advanced Concepts in Palliative Care  3.0 cr.
Prereq: NURS6761.
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.

NURS 6745  Complex Symptom Management in Palliative Care Nursing  3.0 cr.
Prereq: 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.
NURS 6746  Complex Symptom Management for the Clinical Nurse Specialist  3.0 cr.
Prereq: NURS6742, NURS6744. Coreq: Matriculated CNS Students NURS6755-58 APN – any of CNS sections – 1-3 credits.
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.

NURS 6751  Advanced Practicum: Health Systems Leadership  3.0 cr.
Prereq: NURS 6303, NURS 6304, NURS 6305, NURS 6663, NURS 6673.
Required course in which students experience the APN role within a variety of health care settings. The course is designed to integrate and apply competencies required in health systems leadership.

NURS 6752  Advanced Practicum in Public Health Nursing  Variable cr.
Prereq: NURS 6010, NURS 6013, NURS 6021, NURS 6303.
This course provides students with experience in an advanced practice role within a variety of public health or community-based systems of care. Practicum experiences are designed to promote integration and application of the core competencies for public health professionals.

NURS 6754  Advanced Practice in Community Analysis  3.0 cr.
This course will focus on the development of skill in the integration of public health planning using the science epidemiology and theoretical models for the assessment and planning of community-based interventions. Students will conduct a community analysis in the field.

NURS 6755  Advanced Practicum I  Variable cr.
Prereq: Designated in each section's syllabus and will vary according to the specialty option and student level.
Clinical course that allows student to focus on beginning level competencies in the APN role (CNS/NP/CNM) with a selected client population.

NURS 6756  Advanced Practicum II  Variable cr.
Prereq: Designated in each section’s syllabus and will vary according to the specialty option and student level.
Clinical course that allows students to refine beginning level competencies and practice higher-level competencies in the APN role (CNS/NP/CNM) with a selected client population.

NURS 6757  Advanced Practicum III  Variable cr.
Prereq: Designated in each section’s syllabus and will vary according to the specialty option and student level.
Clinical course that allows students to continue to practice and refine higher level competencies in the APN role (CNS/NP/CNM) with a selected client population.

NURS 6758  Advanced Practicum IV  Variable cr.
Prereq: Designated in each section’s syllabus and will vary according to the specialty option and student level.
Clinical course that allows students to refine competencies as an Advanced Practitioner (CNS/NP/CNM) with a selected client population.

NURS 6759  Advanced Practicum: Health Care Informatics  Variable cr.
Prereq: Completion of at least three informatics specialty courses.
This course allows students to integrate and apply informatics competencies in an APN role. The preceptored practicum and project require the student to engage in informatics specialist roles within a variety of health care settings.

NURS 6761  Advanced Assessment  3.0 cr.
Prereq: Basic Assessment. 
Advanced skills in interviewing, physical examination, diagnostic tools, diagnostic thinking and documentation required for APN who provide care for clients across the lifespan. Case study analysis is used to expose students to common complaints seen in their clinical practice settings.

NURS 6767  Advanced Practice in Oncology Nursing: Epidemiology, Prevention & Disease  3.0 cr.
Prereq: NURS6761.
This course focuses on cancer epidemiology, prevention and early detection. It includes an overview of causes of common cancers, instruction in head-to-toe cancer risk assessment, and strategies for cancer risk reduction education. A clinical observation provides opportunities for client assessment and education.

NURS 6770  Advanced Practicum for Certification Requirements – CNS  1.0-8.0 cr.
Prereq: Graduate degree with CNS emphasis.
Clinical course that provides educational supervision for nurses who have completed a graduate level CNS program, but need additional clinical hours documented from an academic institution to meet the requirements for CNS to sit for certifying exams.
NURS 6773  **Advanced Practice in Oncology Nursing: Managing Physiologic Responses**  3.0 cr.
Prereq: NURS6761.
This course will provide the advanced nursing student with an in-depth understanding of the physiologic responses to cancer and cancer treatment for the adult individual including specific cancer treatments, emergent conditions, and corresponding symptom management via nursing interventions.

NURS 6783  **Advanced Practice in Oncology Nursing: Managing Psychosocial Responses**  2.0-3.0 cr.
Prereq: NURS6761.
The purpose of this course is to provide the advanced nursing student with an in-depth understanding of psychosocial and cultural aspects experienced by patients/families during passage through disease stages and cancer treatment. Corresponding nursing interventions are reviewed. Optional clinical component for social support experiences.

NURS 6827  **Diagnosis and Management 1: Acute Alterations in Health**  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  **Aesthetics and Wisdom Traditions of Caring-Healing**  1.0-2.0 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  **Diagnosis and Management II: Chronic Alterations in Health**  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  **Theories and Philosophy of Caring-Healing**  2.0 cr.
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 6846  **Guided Research in Nursing**  Variable cr.
Focuses on independent research in an area of interest to graduate nursing students.

NURS 6855  **Independent Study (Master’s)**  Variable cr.

NURS 6858  **Advanced Practice Nursing: Role Concepts and Professional Issues**  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  **Primary Care in Urgent/Emergent Situations**  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.

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Graduate (Ph.D. Level) Courses

See course schedule and course offering plan for mode of delivery and course information – http://www.uchsc.edu/nursing/studentcentral.

Prereq – Admission to the Ph.D. Program.

NURS 7000  History and Philosophy of Human Science  3.0 cr.
Prereq: NURS 6493.
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 Disciplined Inquiry  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.
Prereq: NURS 7000, NURS 7030.
Course examines the 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 7120  Theory and Knowledge Development in Nursing  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 Empirical 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 Interpretive Research  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 research approach.

NURS 7400  Advanced Quantitative 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  Advanced Quantitative 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/Quality Outcomes: A Macro-level Focus  3.0 cr.
Prereq: NURS7020, NURS7030.
Examines conceptual frameworks and methods for measuring outcomes of health and nursing care delivery at the macro or systems level. Primary emphasis is on assessing the effectiveness, efficiency and equity of health services delivery. Techniques for risk-adjustment and for conducting specific economic analyses are covered. Culminates with examination of national quality initiatives, including report cards and evidence-based practice guidelines.

NURS 7653  Cost/Quality Outcomes: A Micro-level Focus  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  The Human Experience of Health, Illness, Healing, Death/Dying  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  Selected Topics: Human Health Illness Experience  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  Aesthetics and Wisdom Traditions of Caring-Healing  1.0-2.0 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  Theories and Philosophy of Caring-Healing  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  Research Practicum and Scientific 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  Independent Study (Doctoral)  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.

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C = Clinical
T = Telecom (Interactive video for distance students)

Professional Development Courses

Open Enrollment
The School 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 School 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 School of Nursing will be provided through the School of Nursing Office of Professional Development at 303-315-8691 or by monitoring our Website that can be found through the School of Nursing Home Page at http://www.uchsc.edu/nursing/prodev.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.

Rural and Distance Outreach
We are committed to providing opportunities for nursing professionals at a distance. Please give us a call so that we may advocate and support your educational needs at 303-315-4313. We will work very closely with Student Services and the Program Directors to facilitate not only professional development, but also degree seeking students from a distance.
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>
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<tbody>
<tr>
<td><strong>PHRD 3000 Intro Pharm Prac</strong></td>
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<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 Experienl 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** | 0.6 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** | 3.0 cr. |
| 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. |
The role and mechanisms of various pathogens in causing infections.

Conti

Brian Hemstreet, Pharm.D. Prerequisites

PHRD 5720

Combating infections.

Jacci Bainbridge, Pharm.D. Prerequisites

PHRD 5710

Genitourinary, dermatology; 3

Laura Hansen

PHRD 5700

Previous exposure to evidence

Patrick Sullivan, Ph.D. Prerequisites

PHRD 5400

Writing and self-learning assignments, and exams.

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 Prac

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 Found

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 course focuses on development of essential components of pharmacy-related teaching skills, including presentation, 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 Prac

Patrick Sullivan, Ph.D. Prerequisites – PHRD 4450, P3 status.

This course will introduce the concepts of pharmacoecomics 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, Opht

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-ophthalmology, 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 Pharmknts & Tox  
2.0 cr.  
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  
6.0 cr.  
Christopher Turner, Ph.D.

SPRING SEMESTER

PHRD 3150 Prof Skills Dev II  
3.0 cr.  
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  
1.0 cr.  
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  
2.0 cr.  
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  
4.5 cr.  
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  
4.0 cr.  
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  
3.0 cr.  
David Thompson, Ph.D. Prerequisites – 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 therapeutic actions, (iii) therapeutic applications of drugs which influence or mimic these systems.

PHRD 4150 Prof Skills Dev IV  
3.0 cr.  
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 4250Instr Methods II  
1.0 cr.  
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  
2.0 cr.  
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: Infrmtsics  
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.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
<th>Prerequisites</th>
</tr>
</thead>
</table>
| PHRD 4760   | IOS VII: GI, Nutrition        | 2.0 cr.      | 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.      | 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       | PHRD 4750, 4760, P2 status. 
Jacci Bainbridge, Pharm.D. 
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 VI                   | 2.0 cr.      | 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. 
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 5850   | Ger Pharm Elec                | 2.0 cr.      | Mark Ruscin, Pharm.D., Sunny Linnebur, Pharm.D. 
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. 
This two credit, one-semester course is designed to develop a broad knowledge base in the field of complimentary and alternative medicine. |
| PHRD 5860   | Integrative Med Elec          | 2.0 cr.      | Susan Paulsen, Pharm.D. 
This 2 credit hour course is intended to provide the student with an understanding of the functioning of the central nervous system (CNS) in health and disease. |
| PHRD 5865   | Research Elec                 | var. cr.     | Kathleen Stringer, Pharm.D. 
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 5870   | Pediatric Pharm Elec          | 2.0 cr.      | Catherine Jarvis, Pharm.D. 
This two credit, one-semester course is designed to develop a broad knowledge base in the field of complimentary and alternative medicine. |
| PHRD 5875   | Pharm Man Elec                | 2.0 cr.      | David Hill, Ed.D. 
This course is intended to provide the student with a database concerning the basic pharmacology, toxicology, treatment and biopsychosocial aspects of substance abuse and addiction. |
| PHRD 5880   | Subst Abuse                   | 2.0 cr.      | David Thompson, Ph.D. 
This course is intended 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. 
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.

**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>
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</thead>
<tbody>
<tr>
<td>PRDO 5010</td>
<td>Immunology</td>
<td>3.0 cr.</td>
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<tr>
<td>Faculty.</td>
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<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>
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<tr>
<td>PRDO 5320</td>
<td>ADSM II</td>
<td>4.0 cr.</td>
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<tr>
<td>Faculty.</td>
<td>Prerequisite: PRDO 5700.</td>
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<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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</tr>
<tr>
<td>PRDO 5330</td>
<td>ADSM III</td>
<td>4.0 cr.</td>
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<tr>
<td>Faculty.</td>
<td>Prerequisite: PRDO 5700.</td>
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<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>
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<tr>
<td>PRDO 5350</td>
<td>ADSM V</td>
<td>4.0 cr.</td>
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<tr>
<td>Psychiatry, Neurology, and Geriatrics Faculty. Prerequisite: PRDO 5700.</td>
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<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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<tr>
<td>PRDO 5360</td>
<td>ADSM VI</td>
<td>4.0 cr.</td>
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<tr>
<td>Faculty.</td>
<td>Prerequisite: PRDO 5700.</td>
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<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>
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<td>Faculty.</td>
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<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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#### SPRING SEMESTER

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>PRDO 5240</td>
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<td>3.0 cr.</td>
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<tr>
<td>D. Casdorph. Prerequisites: PRDO 5460 &amp; PRDO 5560.</td>
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<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>
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<tr>
<td>Faculty.</td>
<td>Prerequisite: PRDO 5700.</td>
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<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>
<td>PRDO 5340</td>
<td>ADSM IV</td>
<td>4.0 cr.</td>
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<tr>
<td>Faculty.</td>
<td>Prerequisites: PRDO 5700; PRDO 5010 recommended.</td>
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<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>
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</tr>
<tr>
<td>PRDO 5350</td>
<td>ADSM V</td>
<td>4.0 cr.</td>
</tr>
<tr>
<td>Psychiatry, Neurology, and Geriatrics Faculty. Prerequisite: PRDO 5700.</td>
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<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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</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.
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.

<table>
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<tr>
<th>SUMMER SEMESTER</th>
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| **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. |