Program Plan
Center for Bioethics and Humanities

University of Colorado Health Sciences Center

July 18, 2002
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PROGRAM PLAN FOR THE CENTER FOR BIOETHICS AND HUMANITIES

I. Preface and Summary

1. Executive Summary

The Center for Bioethics and Humanities (formerly called the Program in Health Care Ethics, Humanities and Law) proactively encourages a balance between science and the humanities in health care delivery as well as in biomedical research. As the provision of health care continues to transform from developments in biomedical research and information technology as well as changes in health care financing, special and sustained attention must be paid to its humanistic dimensions. The scientific search for the causes of and treatments for disease processes must be tempered by the equally fundamental tasks of understanding and responding to the illness experience of patients and by the concerns and aspirations of the public, those who fund the biomedical research and health care enterprises.

This innovative program interacts with students and faculty of the Health Sciences Center, its affiliated hospitals, and the public to address the ethical dimensions of health care. Its objectives are accomplished through community involvement, clinical consultations, research, education, and consultations on ethical issues encountered throughout the health care setting.

The current and proposed priorities of the Center for Bioethics and Humanities are:

1. Provide comprehensive Bioethics and Humanities education to health professions students at the University of Colorado Health Sciences Center.
2. Establish a comprehensive Program in Clinical Ethics Education and Service.
3. Develop broad-based educational and research initiatives in genetics and ethics.
4. Establish a Center for End of Life and Palliative Care.
5. Sponsor broad-based educational and research initiatives in the ethics of health care organizations.
6. Establish an education and research initiative in research ethics in order to foster the responsible conduct of health care research.
7. Organize and Host educational events, such as colloquia and conferences, which bring internationally recognized scholars to Colorado to address humanistic issues in health care.
8. Provide an identifiable center promoting Ethics and Humanities from which the people of Colorado will benefit.

9. Integrate the visual and performing arts into the daily life of the UCHSC campus.

In addition to research and scholarship, Center faculty work with others at the University of Colorado Health Sciences Center and its clinical affiliates to provide education to health professions students, graduate students, advanced practitioners in training, and practicing health care professionals. The Center is the leading practitioner of interprofessional education at the Health Sciences Center. It offers the only required interprofessional course at the campus, “Ethics in the Health Professions,” that draws students from all four professional schools. Required of all first year CHA/PA, DDS, MD, Pharm D, and PT students, as well as all second year ND students, the 2002 enrollment in the course is just over 370 students. Center faculty also educate medical residents and fellows. In addition, Center faculty work closely with the ethics committees at University of Colorado and The Children’s hospitals and provide the bulk of the ethics expertise needed to advance the education and consultation mission of their ethics committees. They also work with other health care organizations, as well as the public, to promote greater awareness of ethical issues in health care and to craft solutions to these issues.

The new Center for Bioethics and Humanities facility will provide an arts and humanities complex to house secure exhibit space and meeting and seminar facilities. Meeting rooms planned for the center will provide space to convene graduate seminars. Gallery space will host pertinent visual arts displays throughout the year. Most importantly, the Center will expand its work related to problem solving of moral issues in health care. Thus, dedicated space is needed to convene meetings at which ethical matters related to health care delivery, research, and policy will be discussed and deliberated.

The following are themes identified in the UCHSC Master Plan which are reflected in the proposed Center for Bioethics and Humanities:

The humanities and arts center of the type envisioned here is distinctive in its capacity to infuse humanities and the arts into the intellectual and aesthetic pursuits of the institution, thereby promoting the institution’s efforts to rank among the highest echelon of academic health centers.

Addressing issues of broad interest and serving the health professions collectively, the faculty of the Center have developed the campus’s only interprofessional course required among the four professional schools.

The activities planned at the facility, ranging from meetings to exhibits to seminars, will be of the broadest appeal and will create opportunities to form new partnerships with numerous community groups and organizations.

The new Center for Bioethics and Humanities at Fitzsimons will eliminate significant programmatic deficiencies at the 9th Avenue and Colorado Boulevard campus. Most
importantly, the Forum (circular auditorium) in the Center will make it possible for the Center, as well as other sponsors, to convene large groups for productive moral deliberation. There is no space at the existing campus, or any other space planned for Fitzsimons, that is suitable for this activity. The Forum will be a truly unique space to serve the programmatic needs of the Center, and it will be used almost exclusively as such. Ethical deliberation requires suitable space, meaning that it has to be large enough to accommodate representatives from each of the constituencies impacted by a problem and it must provide a physical setting that is suitable for moral deliberation. The fundamental task of ethics is joining power with wisdom to identify good outcomes and the ethically appropriate steps to take in pursuit of those outcomes.

There is no secure, appropriately lighted, or curatoraly suitable space at the existing campus for visual arts displays. The planned gallery space will provide secure, state of the art display space that will make it possible to host multiple displays simultaneously. This will bring a new category of educational activities to the campus, and it will enhance existing courses by incorporating visual arts displays into course activities.

The currently leased facility has many shortcomings as a home for the Bioethics and Humanities faculty. The off campus location is isolated from other faculty and university students. It is also inefficiently designed as a departmental program home.

Creation of this facility on the Fitzsimons campus will allow the Center’s programs to become an integral part of the activities and other programs of both the Health Sciences Center and of the University of Colorado Hospital.

The program requirements of the new Center for Bioethics and Humanities translate into 15,887 gross square feet.

The capital construction budget for the construction of a new facility for the Center for Bioethics and Humanities is $5,436,977.

The Center for Bioethics and Humanities is programmed to be sited in the education zone either very proximate to or actually attached to the Education Facility 1B. Because the latter project is entering its design phase and their design team will also be conducting a feasibility study evaluating adjacency and possible interconnection advantages of the two facilities, it is of some urgency that the Center for Bioethics and Humanities be approved to proceed as quickly as possible in order to take advantage of any construction efficiencies that may occur with concurrent project construction.

The information below reflects the project implementation schedule for the design and construction of the Education Facility at the Fitzsimons Campus.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Expected Completion Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program Plan Completion</td>
<td>June 2002</td>
</tr>
<tr>
<td>Regent Approval</td>
<td>August 2002</td>
</tr>
<tr>
<td>Event</td>
<td>Date</td>
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<td>--------------------------------------</td>
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<tr>
<td>CCHE Approval</td>
<td>September 2002</td>
</tr>
<tr>
<td>Legislative Authorization</td>
<td>May 2003</td>
</tr>
<tr>
<td>Selection of Architect</td>
<td>June 2003</td>
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<tr>
<td>Design/Construction Documents Completion</td>
<td>June 2004</td>
</tr>
<tr>
<td>Bidding</td>
<td>July 2004</td>
</tr>
<tr>
<td>Construction Completion</td>
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</tr>
<tr>
<td>Occupancy</td>
<td>July 2005</td>
</tr>
</tbody>
</table>
2. Process

In order to assure that the work of the Center for Bioethics and Humanities addresses public aspirations and concerns regarding health care, a community-based Advisory Board was established in 1996 to provide guidance and clarity to the Program’s activities. During the 1999-2000 academic year, Board members of the Program entered into discussions with Program faculty to discuss how the relocation of the Health Sciences Center to the Fitzsimons campus could advance the work of the Program as well as bioethics in general throughout the state. These discussions culminated in the decision by the Board in the summer of 2000 to seek approval for a building at Fitzsimons in order to provide adequate space to accommodate future Program growth, to create a facility that could facilitate a broad array of bioethics activities, and to serve as a magnet and gathering place for people throughout the state and region who have an interest in bioethics and the medical humanities. In addition to consultation with Board members, planning activities have followed the Fitzsimons master plan and the guiding criteria set forth in that plan.

The resulting facility program and program plan were presented to and approved by an executive committee of the Health Sciences Center comprised of the Chancellor and the Deans of the five schools.
II. Program Information

Center for Bioethics and Humanities

1. Program Description

The Center for Bioethics and Humanities proactively encourages the transformation of health care by inspiring a balance between science and the humanities in health care delivery as well as in biomedical research. As the provision of health care continues to transform from developments in biomedical research and information technology as well as changes in health care financing, special and sustained attention must be paid to its humanistic dimensions. The scientific search for the causes of and treatments for disease processes must be tempered by the equally fundamental tasks of understanding and responding to the illness experience of patients and by the concerns of the public, those who fund the biomedical research and health care enterprises.

The humanities disciplines and the fine arts examine the social setting of health care as well as the illness experience just as the health sciences investigate biological life processes. Moreover, just as the sciences require facilities to house their laboratories and advance their disciplines, so too must the humanities and the arts have a place to pursue knowledge and celebrate human creativity. The counterpart to microbiological research in the laboratory is moral deliberation in a meeting hall or seminar room; the counterpart to patient care in the clinical setting is the aesthetic experience in an exhibit hall.

The innovative Center for Bioethics and Humanities encourages the transformation of health care through students and faculty of the Health Sciences Center, its affiliated hospitals, and the public to address the ethical dimensions of health care. Its objectives are accomplished through community involvement, clinical consultations, research, education, and consultations on ethical issues encountered throughout the health care setting.

The current and proposed priorities of the program of the Center for Bioethics and Humanities are:

1. Provide comprehensive Bioethics and Humanities education to health professions students at the University of Colorado Health Sciences Center that:
   - provides an interprofessional Core Curriculum in ethics and professionalism
   - develops curricula, teaching, and learning advocacy in all professional schools
   - offers elective courses
   - acknowledges key students and faculty through annual awards
   - integrates Health Law into various campus curricula.

2. Establish a comprehensive Program in Clinical Ethics Education and Service that:
   - provides Graduate Medical Education in ethics and professionalism
   - supports the Program in Bioethics at The Children’s Hospital
provides clinical ethics leadership at the University of Colorado Hospital
conducts advanced seminars in bioethics
offers an MA program in bioethics and humanities
collaborates with the Ethics Committees of The Children’s Hospital and the
University of Colorado Hospital.

3. Develop broad-based educational and research initiatives in genetics and ethics
   in order to:
   conduct Center-initiated research projects
   consult with clinicians and geneticists at UCHSC and collaborate with them on
   their research projects
   begin an annual publication from the “Genetics and Ethics in the 21st Century”
   conference series
   provide public education and outreach
   train postdoctoral fellows.

4. Establish a Center for End of Life and Palliative Care that will:
   sponsor educational activities
   conduct research
   support palliative clinical care services
   develop models of health care delivery for individuals with serious and
   progressive diseases
   provide resources to health care providers throughout Colorado and nationally
   improve access to palliative care in Colorado.

5. Sponsor broad-based educational and research initiatives in the ethics of health
   care organizations, such as:
   consultation with community health care organizations, including hospitals
   collaboration with the Colorado Healthcare Ethics Forum to offer statewide
   educational initiatives
   conduct research.

6. Establish an education and research initiative in research ethics in order to foster
   the responsible conduct of health care research by:
   working with UCHSC leadership and scientists to make UCHSC, UCH, and TCH
   trustworthy research partners
   working with UCHSC leadership and the Fitzsimons Redevelopment Authority to
   make the interface between UCHSC and private industry at Fitzsimons a national
   model.

7. Organize and Host educational events, such as colloquia and conferences, which
   bring internationally recognized scholars to Colorado to address humanistic
   issues in health care. These activities will include:
   “Genetics and Ethics in the 21st Century” conference series
   “Quandaries in Health Care” conference series
8. Provide an identifiable center promoting Ethics and Humanities in which the people of Colorado will benefit from:
   a Forum for moral deliberation and problem-solving for health care issues
   integration of community and patient aspirations and concerns into the work of the University of Colorado Health Sciences Center
   ongoing educational exhibits.

9. Integrate the visual and performing arts into the daily life of the UCHSC campus by providing:
   a public way to balance the sciences and the humanities in the campus community
   a successful method of providing information about the experiences of illness and disability and of fostering empathy and understanding of those experiences
   a creative way to encourage community interest and participation in activities on the campus
   a meaningful method of facilitating conversations that foreground ethical issues associated with illness, health and disability.

2. History, Role and Mission, Unique Programs

   **History:** In 1982, the School of Medicine, in concert with the College of Liberal Arts and Sciences at the University of Colorado, Denver, established the Program in Medical Ethics (“Program” hereafter). Its activities consisted primarily in providing ethics and health law instruction to faculty and students in the School of Medicine, publishing scholarly works in these two areas, and consulting with physicians and the Ethics Committee at the University of Colorado Hospital. In 1992, at the request of the Dean of the School of Medicine and later, the Chancellor, a strategic review and planning process was undertaken. This resulted in budget and programmatic growth, including the expansion of the faculty, the appointment of a full-time director, and the transformation of the Program into an interprofessional, campus-wide initiative that was renamed the Program in Health Care Ethics, Humanities and Law. Since its inception, the Program has worked to engage the public to explore a wide array of ethical and policy issues in health care, ranging from access to care to the responsible development and introduction of genetic advances in clinical medicine. In order to assure that the Program’s work addresses public aspirations and concerns regarding health care, a community-based Advisory Board was established in 1996 to provide guidance and clarity to the Program’s activities. The Board has proved invaluable in shaping the nature and scope of the Program’s work and in helping to assure that its work reflects the complexity and breadth of moral issues in health care. As a result of the continued growth and success of the Program, its programmatic status was changed in February, 2002 to a center and given the new name, Center for Bioethics and Humanities. Center faculty now work with each of the professional schools and various other offices and provide services at the University of Colorado Health Sciences Center, clinical departments and Ethics
Committees at the University of Colorado Hospital, at The Children’s Hospital, and at other institutions throughout Colorado.

**Role and Mission:** The mission of the Center for Bioethics and Humanities is to inspire a balance between the sciences and the humanities in health care delivery and research. Center faculty accomplish the mission through:

- Education, research, and scholarship
- Clinical, institutional, and organizational consultation
- Community involvement and outreach.

The guiding vision of the Center is to transform health care by:

- Graduating future generations of health care professionals who can balance the humanistic, scientific and technical dimensions of their professions
- Advancing knowledge in critical areas of bioethics and the humanities as they relate to health care
- Integrating community and patient aspirations and concerns into the work of the University of Colorado Health Sciences Center
- Assuring the responsible conduct of health care research.

**Unique Programs:** The strategic priorities listed above reflect the various areas of work of the Center faculty. However, the following areas reflect the scholarly interests and strengths of the Center’s regular faculty.

- Genetics and Ethics
- The Visual Arts and Health Care
- Ethics and Humanities Education for Health Professions Students
- Health Care Organization Ethics
- Ethical Issues in End of Life Care
- Professional Ethics, including Professional Misconduct
- Research Ethics

In addition to research and scholarship, Center faculty work with others at the University of Colorado Health Sciences Center and its clinical affiliates to provide education to health professions students, graduate students, advanced practitioners in training, and practicing health care professionals. The Center is the leading practitioner of interprofessional education at the Health Sciences Center. It offers the only required interprofessional course at the campus, “Ethics in the Health Professions,” that draws students from all four professional schools. Required of all first year CHA/PA, DDS, MD, Pharm D, and PT students, as well as all second year ND students, the 2002 enrollment in the course is just over 370 students. Center faculty also educate medical residents and fellows. In addition, Center faculty work closely with the ethics committees at University of Colorado and The Children’s Hospitals and provide the bulk of the ethics expertise needed to advance the education and consultation mission of their ethics committees. They also work with other
health care organizations, as well as the public, to promote greater awareness of ethical issues in health care and to craft solutions to these issues.

3. Program Needs and Trends

An academic health center that will be a model for the 21st century must have dedicated space for the humanities and arts as well as for biomedical research and patient care. The center will create an arts and humanities complex to house the Center for Bioethics and Humanities, secure exhibit space, and meeting and seminar facilities. In addition to needing to accommodate future enrollment growth of the various degree granting programs at the Health Sciences Center, the Center for Bioethics and Humanities needs to expand its larger education, research, and service missions. There is no graduate degree program in bioethics currently offered in the Rocky Mountain Region. The Center hopes to grow sufficiently in the next 5 years to meet this need. The current strategic plan for the Center envisions 9 faculty FTEs by 2007. Expanded office space planned for the Center for Bioethics and Humanities will accommodate this anticipated growth in faculty. Meeting rooms planned for the center will provide space to convene graduate seminars. The Center also needs to expand its educational role by utilizing the visual arts to address the humanistic dimensions of health care. Gallery space planned for the Center for Bioethics and Humanities will host pertinent visual arts displays throughout the year. Most importantly, the Center needs to expand its work related to problem solving of moral issues in health care. Thus, dedicated space is needed to convene meetings at which ethical matters related to health care delivery, research, and policy will be discussed and deliberated. The forum space planned for the Ethics and Humanities Pavilion will make this work possible.

4. Relation to Academic or Institutional Strategic Plans

Master Plan

The following are themes identified in the Master Plan which are reflected in the proposed Center for Bioethics and Humanities:

The humanities and arts center of the type envisioned here is distinctive in its capacity to infuse humanities and the arts into the intellectual and aesthetic pursuits of the institution, thereby promoting the institution’s efforts to rank among the highest echelon of academic health centers.

Addressing issues of broad interest and serving the health professions collectively, the faculty of the Program have developed the campus’s only interprofessional course required among the four professional schools.

The activities planned at the facility, ranging from meetings to exhibits to seminars, will be of the broadest appeal and will create opportunities to form new partnerships with numerous community groups and organizations.
The central role of the Center is the fostering of moral deliberation among interdisciplinary and interprofessional groups of faculty and practitioners as well as among faculty, practitioners, and the larger community. The ability to meet these academic and institutional strategic goals require that these deliberations have an appropriate facility on the Fitzsimons campus.

**Information Technology Strategic Plan**

_The successful implementation of new technologies will depend on the ability to solve problems associated with the “human factor.” In other words, integrating technology in a manner that individuals will learn how to use and apply new tools will be critical._

The Center for Bioethics and Humanities utilizes technology, didactic methods, discussion, displays and exhibits, and other education techniques to focus, in part, on evaluating the appropriate uses, integration, and limitations of technology in the caring process.

_Individual skills relating to the wise use, interaction, and “filtering” of information available through technology will be required at more sophisticated levels than ever before. This will be accomplished through informatics curricula, research, and programs. Informatics will serve at the bridge between technology and professional activities._

The Center for Bioethics and Humanities will utilize available technological resources to identify curricula, research, and programmatic activities in ethics and humanities at other institutions and in other cultures for their applicability to evolving standards of health care.

_The evolution of technology and its implementation in both the broader world and at the UCHSC will result in greater decentralization of information and decision-making within the institution._

The Center for Bioethics and Humanities will effectively utilize high technology capabilities in its didactic presentation capabilities and in its display techniques in its efforts to disseminate information and highlight issues to its students and to the community at large.

_Decision support systems will be a primary tool used by health care practitioners and patients alike._

The Center for Bioethics and Humanities will evaluate the effectiveness and appropriateness of reliance upon high technology by practitioners as well as the impact of more educated consumers in the health care setting.

_The University will be both an importer and exporter of technology-based courses and programs._
The Center for Bioethics and Humanities will identify various technological means of transmitting the outcomes of its evaluations and deliberations on ethical issues in health care to a broader health care community world wide.

5. Relation to Other Programs or Agencies

Ethics is of growing importance in health care. This is reflected in the accreditation requirements of the Joint Commission for the Accreditation of Health Care Organizations, which requires health care organizations seeking accreditation to have ethics processes in place to address ethics matters related to patient care as well as the business operations of the organizations. In response to these accreditation mandates, most hospitals in Colorado now have an active ethics committee. Most committee members volunteer their time, and few committees have members with any extensive formal training in health care ethics. The Center plans to become a major educational and consulting resource for ethics committees throughout the state and region. The Pavilion forum will serve as a major educational resource for these committees, providing a venue to convene educational and training programs. It will also have the capacity to support distance learning by broadcasting educational programs and other meetings to remote sites and to health care practitioners across the state and region.

6. Existing Programmatic/Operational Deficiencies

The new Center for Bioethics and Humanities will eliminate significant programmatic deficiencies at the 9th Avenue and Colorado Boulevard campus.

Most importantly, the Forum in the Pavilion will make it possible for the Center, as well as other sponsors, to convene large groups for productive moral deliberation. There is no space at the existing campus, or any other space planned for Fitzsimons, that is suitable for this activity. The Forum will be a truly unique space to serve the programmatic needs of the Center, and it will be used almost exclusively as such. Ethical challenges in health care can only be resolved through thorough, ongoing deliberation. Such deliberation requires suitable space, meaning that it has to be large enough to accommodate representatives from each of the constituencies impacted by a problem and it must provide a physical setting that is suitable for moral deliberation. The fundamental task of ethics is joining power with wisdom to identify good outcomes and the ethically appropriate steps to take in pursuit of those outcomes. Thus, all parties to moral deliberation need a level playing field. If there is a meeting at the Forum to explore ways to build trust between the health care establishment and the medically indigent, the transplant surgeon needs to be on equal footing with the Medicaid recipient. The Forum’s physical configuration and seating in the round will insure this and, thus, will promote respectful dialogue and productive deliberation. Due to the absence of such a facility at the current campus, the Center is unable to convene anything other than educational presentations on ethical matters related to health care. The Forum will correct this deficiency and usher in a vital new dimension to the Center’s programmatic work.
There is no secure, appropriately lighted, or curatorally suitable space at the existing campus for visual arts displays. The planned gallery space will provide secure, state of the art display space that will make it possible to host multiple displays simultaneously. This will bring a new category of educational activities to the campus, and it will enhance existing courses by incorporating visual arts displays into course activities.

The current leased facility has many shortcomings as a home for the Bioethics and Humanities faculty. The off campus location is isolated from other faculty and university students. It is also inefficiently designed as a departmental program home.

Creation of this facility on the Fitzsimons campus will allow the Center’s programs to become an integral part of the activities and other programs of both the Health Sciences Center and of the University of Colorado Hospital. The current inadequate facility for the program is located in leased space off campus where it is not convenient for student, faculty, practitioners, policy maker, or the public to utilize nor is it able to accommodate all of its intended programs.

7. Program Alternatives

Alternatives to the construction of a new Center for Bioethics and Humanities include, (1) Continue to lease the current inadequate off campus facility, (2) Lease a different off campus facility, and (3) Construct a smaller facility. None of these alternatives allow the Center for Bioethics and Humanities to meet its needs and objectives.

Continue to Lease Current Space This alternative does not provide sufficient space to meet the needs of the program. There would be no forum, only a small amount of display space in the library, insufficient offices for faculty and staff, and ongoing leasing expenses. A continued off campus location makes the Center’s programs inaccessible to its constituents.

Lease Other Space While this alternative may provide sufficient space to meet the needs of the program in a larger facility, a continued off campus location would make the Center’s programs inaccessible to its constituents and perpetuate ongoing leasing expenses.

Construct Less Space While this alternative may provide a convenient on campus location making the Center’s programs accessible to its constituents, it would not provide sufficient space to meet the needs of the program. There may not be either a forum, sufficient display space, or sufficient offices for faculty and staff.
III. Facilities Needs

1. Total Space Requirements

The program requirements of the Center for Bioethics and Humanities in its proposed new facility translate into 15,887 gross square feet. The program elements that warrant this facility consist largely of various meeting spaces for courses and conferences in ethics and humanities, an exhibit gallery to present stimulating media of ethical concerns, and offices for the program faculty and support staff to present these programs. The following table depicts the assignable square footage needs of each program function, suggests their distribution by floor, and converts their assignable square footage into gross square feet:

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<tr>
<td></td>
<td>Faculty Offices</td>
<td>9</td>
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<td>800</td>
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<td>Library/Seminar Room</td>
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<td>15,887</td>
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</table>

2. Unique or Special Features

The Center for Bioethics and Humanities has three unique or special features of note. They are the Forum, the Exhibit Gallery, and the general ambience and architectural statement of the facility as a whole. The uniqueness of each of these factors stems from the unique, but critically important, nature of a center for ethics located on a health sciences center campus.
Where the scientific emphasis of modern medicine is to expand the applications of ever increasing technological advances toward the diagnosis, treatment, and cure of medical maladies, there needs to be an ethical check point to their application: a challenge to the appropriateness of scientific treatments when other concerns for quality of life or quality of death may be more important.

In some ways, this Center represents the antithesis to scientific thought. As such, it is important to be architecturally distinctive from the academic, research, and clinical facilities of the Health Sciences Center campus at Fitzsimons. As such, it is also important to have a Forum meeting facility which is a circular auditorium with no “front” to the room, no location for a speaker of higher authority, and where each participant can represent his/her questioning opinion on a basis equal to those of the other discussion participants. Similarly, an arts exhibit gallery, unique on a science-based campus, can present graphic and thought challenging works to stimulate ethical considerations in the minds of tomorrow’s health care providers of Colorado.


The programs of the Center for Bioethics and Humanities do not currently have much of home facility from which to cite health, safety, and code issues. The faculty and staff offices in leased facilities on 12th Avenue are infrequently accessed by the public since they are remote from the existing campus. Classroom and meeting space is scheduled on a limited space available basis in various classrooms and lecture halls on the 9th Avenue campus. A forum type meeting venue and an exhibit gallery do not exist; therefore, it is difficult to cite code deficiencies to spaces that do not exist. The proposed facility will meet all appropriate codes as described in detail in the Project Description section of this Program Plan.

4. Site Requirements

Site

The new Center for Bioethics and Humanities will be constructed on the Fitzsimons Campus on a site within the education zone. The facility will symbolize the juxtaposition and union of the sciences and information technology with the humanities and ethics in the preparation and education of tomorrow’s health care professionals. The proposed structure will be proximate to the Education Facility 1B which is commencing its design phase. Due to the mutual extensive programmatic use of both facilities by medical school students in their early years as well as possible construction cost efficiencies, the architectural team designing the
Education Facility 1B will explore the benefits of physically connecting these two structures and constructing them in the same, or overlapping, construction schedules.

This location not only accommodates the building footprint, but also allows for minor expansions of the facility to be accommodated in the future. Parking near the education zone will be located east of the site.

The proposed site is relatively flat causing minimal grading issues and allowing for easy accessibility by pedestrians and from vehicles.

**Utilities**

Extensive evaluation has been completed regarding development of utilities and infrastructure on the Fitzsimons campus. The evaluation is detailed in the Health Sciences Center Physical Master Plan Update(s). This Center will fit into the existing utility and infrastructure systems as well as be supported by the proposed infrastructure development plan for the site.

A summary of on-site infrastructure and utilities serving the Fitzsimons campus site is provided below:

*Potable Water*
The City of Aurora is the current water supplier for Fitzsimons. Static water pressure at the city water connection is 75 p.s.i.

*Sanitary Sewer*
Effluent generated on the Fitzsimons site is conveyed to a City of Aurora sanitary sewer interceptor to the north of the Fitzsimons development. This interceptor line feeds into the Metro Wastewater Reclamation District Treatment Plant. Existing lines vary in size from 4” to 18”; much of the existing system will require replacement since the majority of the system is at least 50 years old.

*Stormwater Sewer*
On-site storm drainage is collected in an underground system and is to be discharged into Toll Gate Creek and Sand Creek.

*Natural Gas*
Natural gas is available at the center of the Fitzsimons development.

*Electrical*
As with natural gas, PSCo is the current supplier of electrical service to Fitzsimons. The existing system includes both above and below grade lines in combination with pad-mounted transformers.
Telecommunications
As part of the Administrative Building Fitzsimons renovation project, a telecommunications control and switch room facility has been constructed. The communication system will be extended from Building 500 to serve the new facility.

Landscape Development

There are many large, mature trees in the existing landscape at the Fitzsimons site. The landscape is closely tied with Fitzsimons’ historic heritage. The site was originally developed as a nursery prior to the establishment of the Fitzsimons Army Medical Center in the early 1900’s. Consequently, some of the existing mature trees may be traced to the 1920’s, when more than 200 trees were transplanted from Pike National Forest to the Fitzsimons site as a part of the development of the Fitzsimons site as a treatment center for tuberculosis. In addition, there is a proposed landscape plan being developed for the entire site.

5. Equipment Requirements

Equipment required for the Center for Bioethics and Humanities program includes primarily chairs, desks, and tables for meeting rooms and offices. The Exhibit Gallery requires display cases and other fixtures for various art presentations. No single item has a cost in excess of $50,000. Categories of needed equipment as well as budgeted costs are presented in the Project Cost Estimate section of this Program Plan. Audiovisual needs are included within the budget for information technology.

6. Acquisition of Real Property

The University of Colorado’s Health Science Center campus (known as the Fitzsimons campus) is a 217 acre property located in Aurora, Colorado. It is bounded by Colfax Avenue, Peoria Street, Montview Boulevard, and Potomac Street. The UCHSC campus is part of a larger campus including the Fitzsimons Biotech Research Park. The subject of numerous conveyances from the Department of the Army, ownership of the vast majority of the UCHSC campus has been transferred to the University of Colorado. The education zone in which the Ethics and Humanities Pavilion will be sited is among the conveyed parcels now owned by the University of Colorado at the Fitzsimons campus.
IV. Project Description

1. Facility Concept and Facility Improvements

Concept Sketch of the Proposed Center for Bioethics and Humanities

This view shows the Education Commons in the foreground. The proposed Education Facility 1B is to the left.

The University of Colorado Health Sciences Center is charged with educating future health care professionals, advancing knowledge to better understand and treat human disease and advancing the interests of the communities it serves. The humanities and bioethics play a vital role in these tasks. Faculty at the University who educate health professions students must ensure that their students master the science, techniques, and skills central to today’s health care. At the same time, they must also ensure that their students have intellectual depth and agility, emotional breadth and subtlety, imaginative empathy, and moral sensitivity. In order to accomplish all of this, study of the humanities and investigation of bioethical concerns must be integrated within the study of the health sciences and the mastery of clinical skills and techniques.

Moreover, the University of Colorado Health Sciences Center aspires to be a model of research integrity, requiring its investigators to give careful consideration to the moral dimensions of biomedical research. All research subjects must be treated respectfully and afforded appropriate levels of protection. New scientists must adopt the highest professional standards. All such efforts are central concerns of medical humanities study and scholarship.
Finally, in order to be responsive to its various patient and community constituents, the institution must be aware of their concerns and values. Dialogue, collaboration, and debate all serve to create meaningful alliances between the University and the larger community. The meeting spaces planned for the facility and the activities that will occur in them will create and strengthen such alliances.

Establishing a strong humanities and arts presence at Fitzsimons will help accomplish crucial objectives that will forge new alliances between the University and its public, foster collaboration among the health professions and the disciplines which shape them, and invigorate the health sciences enterprise with imagination and moral circumspection. These goals support the unique opportunity at Fitzsimons to create the premier academic health sciences center of the 21st century. Constructing a facility to promote the humanities and arts and to deliberate ethical issues, both of which are central to the education, research, patient care, and community service missions of the University, will enhance those processes.

Concept Sketch of the Proposed Center for Bioethics and Humanities

This view shows the Education Commons to the exterior in the foreground. The forum room would be to the left of the circulation gallery, which is open to the office area on the second level. The gallery provides exhibit space and a casual gathering area for students, faculty, and visitors.
The Center will include an exterior area that could be developed as a sculpture garden or fountain court to complement the interior space of the exhibit gallery.
The facility has the potential to transform campus daily life:

- Faculty and students can attend debates during the lunch hour about contemporary health care issues such as gene patenting, assisted reproduction, or access to health care;

- People walking from their offices or classrooms to the Town Center can see an exhibit of art work by cancer survivors or a nationally touring photography exhibit;

- Visitors can join faculty and students for an evening seminar exploring ways to incorporate community concerns and interests into the training of future health professionals.

Many of the themes identified in the Master Plan will be reflected in the proposed facility:

- **UCHSC will rank among the top 10 academic health centers in the country:** A humanities and arts center of the type envisioned here may very well be the only one of its kind at an academic health center. It will certainly be distinctive in its capacity to infuse the arts and humanities into the intellectual and aesthetic pursuits of the institution, thereby promoting the institution’s efforts to rank among the highest echelon of academic health centers.

- **Programs will be integrated, interdisciplinary, and interprofessional in nature:** The educational, research, and community service activities of the Program generally focus on health care rather than on any one health profession. Addressing issues of broad interest and serving the health professions collectively, the faculty of the Program have developed the campus’s only interprofessional required course among the four professional schools and are currently working to expand such educational opportunities.

- **New partnerships will be created:** The medical humanities and the fine arts reflect and illuminate the human experience of illness, not disease processes. This perspective touches every health care constituent: investigator, clinician, patient, employer, legislator, and advocate. The activities planned at the facility, ranging from meetings to exhibits to seminars, will be of the broadest appeal and will create opportunities to form new partnerships with numerous community groups and organizations.

In resolving the limitations of the 9th Avenue physical plant, the proposed facility will significantly improve the work of the Program. For instance, the Center is currently providing both interprofessional and profession-specific ethics education on campus but is hampered in these efforts because of current campus educational facilities.
In order to effectively accommodate the needs of the Center for Bioethics and Humanities, the proposed facility will need to provide necessary (a) meeting space for lectures, discussion groups, meetings and seminar; (b) dedicated and secure exhibit space for the exhibition of thought provoking art and historic displays; and (c) office and support space for the Program director, faculty, and staff. Some of the facility improvements resulting from this program plan are described below:

(a) The proposed Center for Bioethics and Humanities will provide a dedicated meeting space for its programs. This availability will facilitate the scheduling of both permanent assigned space for students and faculty in their courses as well as for more impromptu opportunities to accommodate presentations by unique speakers and requests by the public for presentations on timely topics. Fostering moral deliberation among interdisciplinary and interprofessional groups of faculty and practitioners as well as among faculty, practitioners and the larger community is the central role of the Program. Such deliberation requires an appropriate facility. Within the proposed Center will be a forum-style meeting facility consisting of a circular amphitheater accommodating approximately one hundred people for meetings, seminar deliberations, and classes. No such setting exists at the 9th Avenue Campus, yet a suitable meeting space is desperately needed so that the Program can advance its work. A large conference room and smaller meeting rooms will facilitate discussion and teaching of smaller groups in more intimate settings. Flexibility in technology and space design will accommodate small group learning, clinical learning, self-study and computer-facilitated learning throughout the facility. Small meeting rooms will be used as break-out seminar rooms accommodating up to 12 people around conference tables.

(b) The proposed exhibit space will make it possible to display the creative work of international, national and local guest artists, of faculty, staff and students, and of the larger community in response to special Program events such as children responding to violence or living with cancer. There are only two spaces at the 9th Avenue Campus for such exhibits, the ground floor hallways at UCH and the main hallway in the School of Nursing, both of which are drastically limited in size and suitability and neither of which is secure. As a result, it is not possible at the present time to display art that requires a secure space, focused lighting, signage, and curatorial design. Most importantly, neither space promotes reflection or aesthetic appreciation. The new exhibit space will eliminate all of these shortcomings and will create the opportunity to host multiple exhibits simultaneously and throughout the year.

(c) The proposed facility will also provide adequate office space for current and projected faculty and staff including a director, 9 faculty, and 4 staff members.
Planning Assumptions

Planning assumptions used to determine the functional and space requirements for the proposed facility include the following:

- Consistency with the current Institutional Master Plan for UCHSC.

- The facility will contain spaces designed to support the Program in Bioethics and Humanities for the education of future health professionals, and to provide a forum for the support of discussions and exhibitions related to the humanities and the arts in relationship to the issues of health care.

- To provide space that is truly flexible in nature, telecommunications facilities, mechanical, electrical and security systems must be designed to allow displays of valuable artistic materials and to provide a venue for public gatherings related to exhibits and group discussions. Toilet rooms, janitor’s closets, closets, offices for educational support personnel, and trash rooms must be designed to support storage, maintenance and catering activities normally associated with these events.

- Parking will be provided on a campus-wide basis and is not currently planned specifically for this complex.

- The design of the facility will encourage chance encounters among students and faculty of various departments and disciplines.

- The design and construction of this building in the education zone will lend itself to expansion and possible integration with other buildings in the future.

- The entire complex will have technology infrastructure to accommodate changes that will occur in the future.

- The utilities and infrastructure will be based upon the utilities and infrastructure requirements and guidelines of the Master Plan. Waste removal, water supply and utilities will be handled on a campus-wide system.

- There is a central steam and chilled water system on the campus to provide the energy to serve the entire complex.

- The gallery area will require special ventilation and concern for potential damage from light due to the exhibition of environmentally sensitive materials.

- The technology infrastructure requirements for the network environment are extensive, and are described further in the appendix.
Specific planning assumptions of the meeting rooms are specified below:

**100+ Seat Forum**
Similar to the facility of the Given Institute in Aspen, the 100+ seat Forum will require fixed tables with telecommunications links for laptop computers. The hall must be equipped for slide and computer projection.

**Small Group Rooms**
This space will include four small group rooms that faculty and students will use for peer discussion.

**Code and Standard Requirements**

**Applicable Codes and Standards**

The University of Colorado Health Sciences Center maintains jurisdiction over the interpretation and enforcement of code requirements for the construction of projects on its campuses. The education buildings, including the Ethics and Humanities Pavilion will be designed to meet the latest UCHSC adoption of the following codes and standards:

**Codes**

- Uniform Building Code
- Uniform Plumbing Code
- Uniform Fire Code
- Uniform Mechanical Code
- National Electric Code (NFPA No. 70)
- Life Safety Code (NFPA No. 101)
- Aurora Fire Code

**Standards**

- State of Colorado Model Energy/Efficiency Construction and Renovation Standards for Non-Residential Buildings
- 1983 C.R.S. (Colorado Revised Statutes) Volume 3 – Title 9, Article 2 – Safety Glazing Materials
- 1980 ANSI A 117.1 Specifications for Making Buildings and Facilities Accessible to and Usable by Physically Handicapped People
- Americans with Disabilities Act
Operational Support System Assumptions

The facility contains various functions, all of which support health sciences education. Specific functions within the building have operational requirements outlined in the following narrative.

Access and security

- A controlled key/card system will be provided at all building entry points.
- Alarm systems will be incorporated to protect the safekeeping of expensive equipment and exhibit materials.
- Security systems will be included that allow after hours access and use.
- Alarm systems will be installed to protect areas from unauthorized users.

Environmental Control Systems

- The forum and exhibit areas have special environmental control needs to maintain and support the mission of the facility. A preliminary assessment of the special environmental control needs of the Center would indicate that air volumes would need to be minimized to allow voice and musical presentations to occur without interference from mechanical background noises. Too, environmental controls of temperature and humidity may be necessary to support the exhibition of some forms of art materials. Exhibits may involve large numbers of people in relatively small spaces – spaces which may be largely unoccupied at other times. Environmental systems must be able to meet needs over a wide range and be economical and energy efficient in the process.

Information technology

- This complex will have access to a centralized computer network/fiber optics system.
- All learning spaces will be equipped to utilize a variety of educational technologies. These “smart” learning areas will be capable of using audio/video and computer graphics.

Electrical Systems and Lighting

Several of the spaces within the Ethics and Humanities Pavilion have specialized requirements for electrical systems and lighting.

- Flexible electrical and communication systems will be necessary in the forum and in other meeting and exhibit spaces to support a range of functional requirements.
- Lighting in display areas must be flexible and of ‘museum’ quality – able to illuminate a wide variety of materials and situations (receptions and other gatherings as well as static displays).

- In the forum space, lighting must be able to illuminate the ‘audience’ when the space is used as a venue for discussions; to respond to the needs of audio-visual presentations; and serve the requirements of a wide range of presentation methods, lecture formats and even musical and theatrical events.

Service/trash/materials management

- Trash from office areas is expected to be normal for this type of use. Trash from meetings and special events will be combined with the trash facilities designed to support the theater use. No hazardous waste will be generated within this facility.

- Service areas will be combined with the theater complex.

- An elevator will be required for movement of materials and people within the facility.

Adjacencies/Access

- Primary assembly and exhibit areas should be on the ground floor. The gallery space should have a strong visual relationship with the education commons. To enhance privacy, offices and meeting rooms could be on a second level.

2. Project Sketches

The ground floor level of the Center for Bioethics and Humanities will include the meeting Forum as the focal center of the facility. Peripheral to the Forum will be an Exhibit Gallery, Break Out Rooms, and Support and Service space. The upper level will include Faculty Offices and Board Room area. The conceptual layout of these functional spaces is depicted in the following diagrams:
The most important functional space in the Center for Bioethics and Humanities is the 100+ seat Forum. As described earlier, its circular shape is integral to the facilitation of dynamic discussion of opposing ethical positions. The room will also incorporate a projection screen for flexible viewing by an audience of half that capacity. The conceptual diagram of this space is shown below:
Seating is planned as moveable chairs at fixed seminar tables. Floor of Forum is to be tiered. A mechanical lift or ramp will provide access for handicapped persons to the speaker’s area. All upper tier seats are accessible to the handicapped.
3. Project Cost Estimate(s)

Construction

The capital construction budget for the construction of Ethics and Humanities Pavilion is $5,436,977. The sources of these costs are professional estimating resources as well as recent experiences with actual construction costs of the University of Colorado Health Sciences Center with projects under construction on the Fitzsimons campus. The unique requirements of the Forum and the Exhibit Gallery are anticipated to cause them to be more costly than the construction of typical education space. The project is a cash project without contribution of state capital funds and will be funded by gifts. The estimated project cost is detailed in the following table.
Capital Construction Budget
Ethics & Humanities Pavilion

A. Land Acquisition:
   Land Purchase Cost $0

B. Professional Services:
   Site Surveys, Investigative Reports $14,000
   Architectural/Engineering/Basic Services $439,485
   Code Review/Inspection $16,000
   Construction Management $99,546
   Total Professional Services $569,031

C. Construction:
   Infrastructure
   (a) Services/Utilities $50,000
   (b) Site Improvements $500,000
   New Construction (15,887 GSF) 15,887 GSF @ $220/SF $3,495,140
   Total Construction Costs $4,045,140

D. Equipment and Furnishings:
   Equipment (New) $175,000
   Communications $308,000
   Total Equipment & Furnishings Costs $483,000

E. Miscellaneous:
   Art in Public Places $40,451
   Relocation $40,451
   Total Miscellaneous Costs $80,902

F. Project Contingency
   Project Contingency 5% $258,904
   Total Contingency $258,904

Total Budget Request $5,436,977

Source of Funds
   CFE $5,436,977

Notes:
1. Fixed seminar tables in the Forum and built-in shelving and cabinetry in the Library/Seminar Room are included in the building construction cost.

Equipment

Capital costs for equipment and furnishings for the Center for Bioethics and Humanities consist primarily of furnishings for meeting rooms and for offices. By category, they are shown in the table below:
Equipment Budget
Center for Bioethics & Humanities

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<thead>
<tr>
<th>Unit</th>
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<tbody>
<tr>
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<td>Conference Tables &amp; Seating for</td>
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<td>Breakout and Library/Seminar Rooms</td>
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<td>Director's Office Furnishings</td>
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<td>Desk, Conference Table, Chairs</td>
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<td>Desk &amp; Chairs</td>
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<td>Filing/Storage Units</td>
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<tr>
<td>Miscellaneous</td>
<td>1</td>
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</table>

Total Furnishings & Equipment $175,000

Technology

Visual presentation technology, network connectivity and digital control systems will be integrated into the teaching and conference rooms of the Center for Healthcare, Ethics, Humanities and Law. Each meeting room will be equipped with video, audio, fiber and data network interfaces. The auditorium, seminar and board rooms will have built in video/data projection systems and sound reinforcement. Breakout rooms will have similar capability on a setup basis. The auditorium will utilize a computer based management program to control projection, sound and lighting systems. The touch screen design will provide manual as well as automated control for ease of operation by those with little familiarity with the system. Audiovisual capabilities will include slide projection, videotape/DVD playback, three dimensional/document projection, videoconferencing, computer projection and television studio/network/satellite connectivity.
Selected Technology Costs:

Network connectivity         $12,000*  
    (12 port interface jacks)
Portable audiovisual equipment       $26,500**  
    (slide, video, data and document projectors)
Seminar and board room projection and sound systems $23,800**
Auditorium control system $26,600**  
    (touch screen, lighting and sound)
Auditorium audiovisual equipment $48,500**  
    (slide, video, data and document projectors, computer,  
    VCR, microphones, podium, electronic whiteboard)

*    Included in the building construction budget
**  Included in the information technology budget

Cost Effects of Project Delay

Construction and equipment purchasing costs can increase at rates from 0% to 10% per annum. In recent years, costs increases have often been in the range of 3% to 5%. A delay in commencing this project would probably result in increased costs of this magnitude.

Operating Costs

Annual facility operating costs for the Center for Bioethics and Humanities with a July 2005 occupancy are projected at $104,378. The current annual lease cost for the Center at 3570 12th Avenue, Denver, is $83,983. When the project is complete, this lease cost will be eliminated. This lease will expire and require renewal in December 2004 at an increased rental amount; the amount of the increased lease cost is unknown at this time.

4. Life Cycle Cost Analysis

Life Cycle Cost analysis tables for this project are found in the Appendix. In a 30 year study, they indicate that the current project expenditure of $5,436,977 plus the future value of operating costs and capital replacements of $3,430,328 compare favorably to a future facility value of $17,670,175.

Due to the commitment to develop Fitzsimons as the replacement campus of the 9th Avenue campus by the University of Colorado Health Sciences Center, comparative life cycle cost analyses for alternative off campus sites not owned by the University of Colorado were not considered.
5. Financial Analysis

The Center for Bioethics and Humanities is a 100% cash funded project with funds derived from gifts.

The following tables indicate the funding sources for operating costs and for capital development costs respectively:

**Projected Funding Sources for Capital Development**

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<tr>
<td>330 - Restricted Fund – Exempt Gift Giving</td>
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<tr>
<td>Total</td>
<td>$5,436,977</td>
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**Projected Funding Sources for Facility Operating Costs**

Projected Occupancy Date – July 1, 2005

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<th>COFRS Fund</th>
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<tr>
<td>Total</td>
<td>$104,378</td>
<td>$104,378</td>
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</tbody>
</table>
6. Project Schedule

Relation to Other Projects and Programs

The programs of the Center for Bioethics and Humanities relate to all components (education, research, and clinical) of the University of Colorado Health Sciences Center. As more of these programs are able to relocate to the Fitzsimons campus, they will be better able to access the range of programs of the Center for Bioethics and Humanity. In the near future, buildings under construction or about to be under construction will have high utilization of first and second year students in the School of Medicine, School of Nursing, and Graduate School. These schools are particularly high users of the current and projected programs of the Center.

Furthermore, in the Center’s current off campus location and with its limited ability to offer programs in overutilized space at the 9th Avenue campus, the availability of dedicated space to this program will substantially increase its accessibility to all Health Sciences Center students and faculty.

Urgency

The Center for Bioethics and Humanities is programmed for siting in the education zone either very proximate to or actually attached to the Education Facility 1B. As the latter is entering its design phase and their design team will also be conducting a feasibility study evaluating adjacency and possible interconnection advantages of the two facilities, it is of some urgency that the Ethics and Humanities Pavilion be approved to proceed as quickly as possible in order to take advantage of any construction efficiencies that may occur with concurrent project construction.

Schedule

The information below reflects the project implementation schedule for the design and construction of the Education Facility at the Fitzsimons Campus.

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<th>Activity</th>
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</tr>
<tr>
<td>Regent Approval</td>
<td>August 2002</td>
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<tr>
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V. Relation to Master Plan/Other Projects

The Master Plan for the future of the University of Colorado Health Sciences Center was developed during an 18-month period in 1997 and 1998. The education vision within the plan that was developed by a campus-wide education committee was designed to accommodate current and future generations of Health Sciences Center students and faculty. The vision is of a strong, integrated campus community that utilizes emerging technologies, faculty, and interprofessional learning opportunities efficiently and effectively.

In order to assure that the work of the program formerly known as Health Care Ethics, Humanities, and Law addresses public aspirations and concerns regarding health care, a community-based Advisory Board was established in 1996 to provide guidance and clarity to the Program’s activities. During the 1999-2000 academic year, Board members entered into discussions with Program faculty to discuss how the relocation of the Health Sciences Center to the Fitzsimons campus could advance the work of the Program as well as bioethics in general throughout the state. These discussions culminated in the decision by the Board in the summer of 2000 to seek approval for a facility at Fitzsimons in order to provide adequate space to accommodate future Program growth, to create a facility that could facilitate a broad array of bioethics activities, and to serve as a magnet and gathering place for people throughout the state and region who have an interest in bioethics and the medical humanities. In addition to consultation with Board members, planning activities have followed the Fitzsimons master plan and the guiding criteria set forth in that plan.

Subsequent annual updates to the Master Plan of the Health Sciences Center have addressed the need for this facility.

The resulting facility program and program plan has been presented to and approved by an executive committee of the Health Sciences Center comprised of the Chancellor and the Deans of the five schools.
VI. Facilities Alternatives

The Facilities Alternatives listed below and the Program Alternatives discussed earlier are the same. Opting for less optimal facilities alternatives would result in a lesser ability to successfully accomplish program objectives.

Alternatives to the construction of a new Center for Bioethics and Humanities include, (1) Continue to lease the current inadequate off campus facility, (2) Lease a different off campus facility, and (3) Construct a smaller facility. None of these alternatives allow the Center for Bioethics and Humanities to meet its needs and objectives.

Continue to Lease Current Space  This alternative does not provide sufficient space to meet the needs of the program. There would be no forum, only a small amount of display space in the library, insufficient offices for faculty and staff, and ongoing leasing expenses. A continued off campus location makes the Center’s programs inaccessible to its constituents.

Lease Other Space  While this alternative may provide sufficient space to meet the needs of the program in a larger facility, a continued off campus location would make the Center’s programs inaccessible to its constituents and perpetuate ongoing leasing expenses.

Construct Less Space  While this alternative may provide a convenient on campus location making the Center’s programs accessible to its constituents, it would not provide sufficient space to meet the needs of the program. There may not be either a forum, sufficient display space, or sufficient offices for faculty and staff.

Another variation among considerations for new construction is to consider constructing this facility attached to another facility rather than as a freestanding structure. Due to the unique nature of the programs in Bioethics and Humanities, it is important that its facility have an architectural presence distinctive from and in contrasting juxtaposition to other more scientific Health Sciences Center facilities. However, it may be possible to attach this facility to an educational facility and still maintain some architectural distinctiveness with the benefit of creating some cost efficiencies. The design team being selected for the Education Facility 1B facility will also be evaluating the feasibility of constructing the Center for Bioethics and Humanities connected to the Education Facility 1B.
Appendices

Map

Institutional Master Plan
Final Phase

Note: Light yellow color designates buildings for educational use.
1: Building 500; 24: Education Facility 1B; 21: Campus Center
32: proposed UCHSC library
Program Plan Assumptions by Room
Program Assumptions for Center for Bioethics & Humanities

Room/Area Name: Forum
Total Identical Rooms: 1
Room Size: 2,250 ASF

Primary Function: A circular lecture hall/discussion facility for 100 attendees and additional ‘overflow’ seating for 30 persons. For most purposes, there should be no obvious “head of the room,” and all participants should be able to speak from equal seatings. Occasionally, speakers should be able to utilize projectors and 2 projection screens (projecting similar images on opposite sides of the room so that all attendees can visualize the projected images) without compromising the integrity of the circular egalitarian seating concept.

Location: Center for Bioethics and Humanities
Adjacent To: Projector/IT Room
Close To: Convenient to rest rooms; easy to locate from building entrance, Breakout Rooms, and Exhibit Gallery

Special Requirements: Seating will be in circular rows with all participants able to see one another to be able to discuss and debate sensitive issues equally. Rows of fixed tables should be tiered requiring a high ceiling or depressed floor pit. The Forum should be suitable for distance learning and equipped with microphones and cameras capable of audio and video transmission to remote sites. Window access from Projector/IT Room.

Built-In Equipment: Motorized projection screens (2), white boards (2), and a smart board.
Moveable Equipment: 100-130 comfortable chairs

Other Design Considerations: Controlled dimmable lighting, speaker system, access for handicapped.
## Program Assumptions for Center for Bioethics & Humanities

<table>
<thead>
<tr>
<th>Room/Area Name:</th>
<th>Projection &amp; IT Room</th>
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<tbody>
<tr>
<td>Total Identical Rooms:</td>
<td>1</td>
</tr>
<tr>
<td>Room Size:</td>
<td>150 ASF</td>
</tr>
<tr>
<td>Primary Function:</td>
<td>Accommodates projection needs for the Forum and provides a base for IT needs of the ground floor of the Center.</td>
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</table>

<table>
<thead>
<tr>
<th>Location:</th>
<th>Center for Bioethics and Humanities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjacent To:</td>
<td>Forum</td>
</tr>
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</table>

**Close To:**

**Special Requirements:** Window interconnection to Forum. Floor should be elevated by several steps above the Forum to accommodate image projection above Forum attendees. Conduit connections for IT cabling from the campus network and feeding to various meeting rooms of the Center.

**Built-In Equipment:** Counter for projector support.

**Moveable Equipment:** Projectors, chair, rack for IT equipment

**Other Design Considerations:** Flexible area to accommodate future technologies. Dimmable lighting should not interfere with presentations in the Forum.
Program Assumptions for Center for Bioethics & Humanities

Room/Area Name: Breakout Room

Total Identical Rooms: 4

Room Size: 200 ASF

Primary Function: Provide group learning rooms to accommodate 8 to 18 students, faculty, or Forum attendees. These will be used for breakout sessions from Forum meetings, small group discussions, small classes and seminars, and student (individual or small group) study rooms.

Location: Center for Bioethics and Humanities

Adjacent To: Locate adjacent to the Forum

Close To: Convenient to rest rooms; easy to locate from building entrance, Forum, and Exhibit Gallery

Special Requirements: Room needs to function for discussions led with the aid of presentation materials, discussion groups, and student study. Students may have 24 hour controlled access.

Built-In Equipment: Projection screen, white boards (2), data access ports

Moveable Equipment: Discussion (conference) table to seat 10, 18 comfortable chairs, slide projector, LCD projector, overhead projector

Other Design Considerations: Controlled dimmable lighting. Wired for telecommunications
Program Assumptions for Center for Bioethics & Humanities

Room/Area Name: Exhibit Gallery
Total Identical Rooms: 1
Room Size: 2,000 ASF
Primary Function: Exhibition of art to students, faculty, other health care practitioners, and the public. Displayed art will change and will include wall hangings, ceiling hangings, sculpture and other 3 dimensional art pieces, display case artifacts, and electronic media.

This space is comprised of two areas. The first is a public ‘Galleria’ providing for general display in a space of public circulation and gathering to foster frequent interaction with the display materials. The second is a related area configured to provide display opportunities in a setting where lighting and access can be easily controlled and which will provide maximum security for displayed materials.

Location: Center for Bioethics and Humanities
Adjacent To:
Close To: Convenient to main entrance, Forum, Breakout Rooms, rest rooms.
Special Requirements: No natural lighting in areas where art that is sensitive to natural light may be displayed. Flexible spaces suitable for the display of a variety of art to include traditional and non traditional forms: high ceiling, long walls, spaces with adequate depth for the observation of displayed art, lighting options, weight carrying capability for sculptures, wall
construction suitable for display and security of art that may be weighty and/or valuable. A few benches need to be situated for observing the displays. Wiring for several touch screen computers. Wide access capability for changing exhibits containing large pieces of art. Storage and distribution of audio tape guide units. Consideration of a logical path for circulation as well as progressive organization of a sequential exhibit. Sound attenuation of surface materials.

**Built-In Equipment:**
Extensive wall mounting, ceiling fixture and hanging supports, and floor weight bearing capability. Wiring under the floor for multiple display options.

**Moveable Equipment:**
Free standing display panels; benches; flexibility for multiple display cases; and multiple computer screen locations.

**Other Design Considerations:**
Controlled dimmable lighting; options for additional lighting, focused lighting, high intensity lighting, ventilation and humidity control for artifacts, and secure controlled access to portions of the exhibit area.
**Program Assumptions for Center for Bioethics & Humanities**

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<tr>
<th>Room/Area Name:</th>
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<td>Room Size:</td>
<td>250 ASF</td>
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<td>Primary Function:</td>
<td>Provides nourishment support to seminars and conferences, exhibit openings, and staff coffee area. Should provide adequate space for caterer set-up and serving at functions.</td>
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<tr>
<td>Location:</td>
<td>Center for Bioethics and Humanities</td>
</tr>
<tr>
<td>Adjacent To:</td>
<td></td>
</tr>
<tr>
<td>Close To:</td>
<td>Forum and Exhibit Gallery</td>
</tr>
<tr>
<td>Special Requirements:</td>
<td>Equipped similar to a residential kitchen without an oven. Easy to clean.</td>
</tr>
<tr>
<td>Built-In Equipment:</td>
<td>Kitchen counters and cabinets, 2 sinks, disposal.</td>
</tr>
<tr>
<td>Moveable Equipment:</td>
<td>Refrigerator with freezer and icemaker, dishwasher, 2 microwave ovens, moveable set-up tables (2), phone.</td>
</tr>
<tr>
<td>Other Design Considerations:</td>
<td>Adequate ventilation for heat and odors.</td>
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</table>
Program Assumptions for Center for Bioethics & Humanities

Room/Area Name: Miscellaneous

Total Identical Rooms: 1

Room Size: 150 ASF

Primary Function: Miscellaneous storage area also used for temporary storage of items related to the Exhibit Gallery (artifacts, display cases, track lighting units). Area may also be used as a small set-up area for changing exhibits.

Location: Center for Bioethics and Humanities

Adjacent To:

Close To: Exhibit Gallery

Special Requirements:

Built-In Equipment:

Moveable Equipment:

Other Design Considerations: Ventilation and humidity control for temporary artifact storage. Adequate lighting and power sources for workshop activities to prepare for display set-ups. Open flexible floor space.
Program Assumptions for Center for Bioethics & Humanities

Room/Area Name: Board Room

Total Identical Rooms: 1

Room Size: 800 ASF

Primary Function: A Board Room for conferences, advanced seminars, Board meetings, and other meetings possibly including visiting dignitaries.

Location: Center for Bioethics and Humanities

Adjacent To:

Close To:

Special Requirements: Provide comfortable conference seating for 30. Room to include all possible data and media presentation capabilities including standard projector, overhead projector, LCD projector.

Built-In Equipment: Projection screen, white board, projector outlets under conference table, refreshment counter with storage cabinet underneath.

Moveable Equipment: Conference table(s), 30 comfortable chairs, easel stands (2) for presentation boards, speaker phone.

Other Design Considerations: Shading, if windows are present; controlled dimmable lighting.
# Program Assumptions for Center for Bioethics & Humanities

**Room/Area Name:** Library Seminar Room  
**Total Identical Rooms:** 1  
**Room Size:** 300 ASF  
**Primary Function:** Room functions as both a library for reference materials for bioethics and humanities as well as a small group meeting and seminar room.

**Location:** Center for Bioethics and Humanities  
**Adjacent To:**  
**Close To:** Faculty Offices and Reception (for control of loaned materials). Near copier.

**Special Requirements:** Provide comfortable seating for seminar attendees and, alternatively, library/research seating for students and faculty.

**Built-In Equipment:** Shelving on two long walls for books with cabinets or shelving underneath for library storage of other media (tapes, videos, DVDs). Projection screen, white board, projector outlet under seminar table.

**Moveable Equipment:** Discussion (conference) table to seat 16, 20 comfortable chairs, slide projector, LCD projector, overhead projector, speaker phone.

**Other Design Considerations:** Controlled dimmable lighting. Wired for telecommunication.
### Program Assumptions for Center for Bioethics & Humanities

<table>
<thead>
<tr>
<th>Room/Area Name:</th>
<th>Director Suite</th>
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<td>Total Identical Rooms:</td>
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<tr>
<td>Room Size:</td>
<td>300 ASF</td>
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<tr>
<td>Primary Function:</td>
<td>Office and conference area for program director</td>
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<tr>
<td>Location:</td>
<td>Center for Bioethics and Humanities</td>
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<tr>
<td>Adjacent To:</td>
<td>Receptionist</td>
</tr>
<tr>
<td>Close To:</td>
<td>Faculty Offices, Senior/Junior Staff Offices, copier.</td>
</tr>
</tbody>
</table>

**Special Requirements:**

**Built-In Equipment:** Projection screen and white board

**Moveable Equipment:** Desk, credenza, computer table, desk chair, 3 guest chairs, conference table, 6 conference chairs, personal computer with printer, bookcase, lateral file cabinet, task light, phone.

**Other Design Considerations:** Dimmable lighting and wired for telecommunications.
Program Assumptions for Center for Bioethics & Humanities

Room/Area Name: Faculty Office
Total Identical Rooms: 9
Room Size: 150 ASF
Primary Function: Private office for faculty member.

Location: Center for Bioethics and Humanities
Adjacent To: Receptionist, other Faculty Offices, Senior/Junior Staff Offices, copier.

Close To: Director Suite

Special Requirements:

Built-In Equipment:

Moveable Equipment: Desk, computer table, desk chair, small meeting table, 4 guest chairs, personal computer with printer, lateral file cabinet, bookcase, task light, phone.

Other Design Considerations: Wired for telecommunication.
Program Assumptions for Center for Bioethics & Humanities

Room/Area Name: Senior Staff Office
Total Identical Rooms: 1
Room Size: 125 ASF
Primary Function: Office for senior staff member

Location: Center for Bioethics & Humanities
Adjacent To:

Close To: Receptionist, copier, Junior Staff Offices, Faculty Offices

Special Requirements:

Built-In Equipment:

Moveable Equipment: Desk or work station, chair, 2 guest chairs, personal computer with printer, lateral file cabinet, bookcase, phone.

Other Design Considerations: Wired for telecommunications.
Program Assumptions for Center for Bioethics & Humanities

Room/Area Name: Junior Staff Office
Total Identical Rooms: 3
Room Size: 100 ASF
Primary Function: Office for junior staff member

Location: Center for Bioethics and Humanities
Adjacent To:
Close To: Receptionist, copier, Senior Staff Office, Faculty Offices

Special Requirements:

Built-In Equipment:

Moveable Equipment: Desk or work station, chair, guest chair, personal computer with printer, lateral file cabinet, phone.

Other Design Considerations: Wired for telecommunications.
### Program Assumptions for Center for Bioethics & Humanities

<table>
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<tr>
<th><strong>Room/Area Name:</strong></th>
<th>Reception</th>
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<td><strong>Total Identical Rooms:</strong></td>
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</tr>
<tr>
<td><strong>Room Size:</strong></td>
<td>100 ASF</td>
</tr>
<tr>
<td><strong>Primary Function:</strong></td>
<td>Receptionist/secretary functions and guest waiting area.</td>
</tr>
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</table>

**Location:** Center for Bioethics and Humanities

**Adjacent To:** Director Suite and copier.

**Close To:** Faculty Offices, Senior/Junior Staff Offices, and Library Seminar Room

**Special Requirements:**

**Built-In Equipment:**

**Moveable Equipment:** Desk or workstation with computer area, desk chair, 2 guest chairs, bookcase, lateral file, phone.

**Other Design Considerations:** Wired for telecommunications.
Program Assumptions for Center for Bioethics & Humanities

Room/Area Name: Copy/Storage
Total Identical Rooms: 1
Room Size: 175 ASF
Primary Function: Location for copier machine and storage of files and office supplies

Location: Center for Bioethics and Humanities
Adjacent To:
Close To: Receptionist and all offices

Special Requirements:

Built-In Equipment: Open shelving for storage of office supplies

Moveable Equipment: Copier, 3 lateral files, phone.

Other Design Considerations:
Program Assumptions for Center for Bioethics & Humanities

Room/Area Name: Miscellaneous & IT

Total Identical Rooms: 1

Room Size: 100 ASF

Primary Function: Accommodates IT needs to support technology uses on the upper level of the Center and provides open space and/or open shelving for storage for office users.

Location: Center for Bioethics and Humanities

Adjacent To:

Close To: Upper level Offices

Special Requirements: Conduit for IT connections.

Built-In Equipment:

Moveable Equipment: Rack for IT equipment and adjustable shelving units.

Other Design Considerations:
Other Approvals

This Project Request is in conformance with the most recently approved facility Master Plan for the University of Colorado Health Sciences Center entitled Institutional Master Plan – University of Colorado Health Sciences Center and the University of Colorado Hospital Authority and approved on 12/3/98 by the Colorado Commission on Higher Education. Subsequent Institutional Master Plan Updates of 1999, 2000, and 2001, respectively, were approved by the Board of Regents of the University of Colorado and submitted to CCHE.

A similar program plan for a center for ethics and humanities was approved by the Board of Regents of the University of Colorado in August 2001. This specific program plan is being submitted to the Board of Regents and is anticipated to be approved on August 8, 2002.

Room Utilization Addendum

There is no Forum meeting room for any utilization analysis. Other classroom usage by this program is scheduled when needed and available on a non-designated basis.

Life Cycle Owning and Operating Cost Analysis

The following tables constitute the Life Cycle Owning and Operating Analysis over a 30 year period. The tables are discussed briefly in the program plan above.

LIFE CYCLE COST ASSUMPTIONS

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first year compounded annually
# LIFE CYCLE COST ANALYSIS

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<th>Operating &amp; Maintenance ($1,000)</th>
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<th>Salvage Value ($1,000)</th>
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<td>124,434</td>
<td>320,600</td>
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<td>1,980,250</td>
<td>0.2330</td>
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<tr>
<td>26</td>
<td>205,974</td>
<td>137,188</td>
<td>353,461</td>
<td>0.2198</td>
<td>77,691</td>
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<tr>
<td>27</td>
<td>227,087</td>
<td>144,047</td>
<td>371,134</td>
<td>0.2074</td>
<td>76,973</td>
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<tr>
<td>28</td>
<td>238,441</td>
<td>151,250</td>
<td>389,691</td>
<td>0.1956</td>
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<tr>
<td>29</td>
<td>250,363</td>
<td>158,812</td>
<td>409,175</td>
<td>0.1846</td>
<td>75,534</td>
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<tr>
<td>30</td>
<td>1,136,401</td>
<td>166,753</td>
<td>(17,670,175)</td>
<td>1,566,035</td>
<td>0.1741</td>
<td>272,647</td>
<td></td>
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</tr>
</tbody>
</table>

Total Present Value for Owning and Operating Costs over the Study Period: $3,430,328
## MAJOR REPAIR AND REPLACEMENT COSTS

**Project:** UCHSC Center for Humanities  
**Date:** 21-Jun-02  
**Inflation Factor:** 5%  
**Construction Cost:** $4,045,140  
**Study Period:** 30 years

<table>
<thead>
<tr>
<th>Facility Subsystem</th>
<th>Likely Life</th>
<th>Range</th>
<th>Useful Life Chosen</th>
<th>% Replaced @ Useful Life Chosen</th>
<th>% of Pjct. Costs</th>
<th>Current Constr. Cost</th>
<th>Provision for Renewal w/o Inflation</th>
<th>FV Factor 5%, Useful Life Chosen</th>
<th>Replace. Cost w/ Inflation, Useful Life Chosen, &amp; % Replaced</th>
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</thead>
<tbody>
<tr>
<td>Foundation/structure</td>
<td>n/a</td>
<td>n/a</td>
<td></td>
<td>25%</td>
<td>$1,011,285</td>
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<tr>
<td>Roofing</td>
<td>25</td>
<td>15-40</td>
<td>15</td>
<td>100%</td>
<td>3%</td>
<td>$121,354</td>
<td>$2,090</td>
<td>2.079</td>
<td>$252,295</td>
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<tr>
<td>Exterior Closure</td>
<td>n/a</td>
<td>50 up</td>
<td>30</td>
<td>20%</td>
<td>19%</td>
<td>$768,577</td>
<td>$25,619</td>
<td>4.322</td>
<td>$664,358</td>
</tr>
<tr>
<td>Interior Construction</td>
<td>50</td>
<td>25 up</td>
<td>30</td>
<td>10%</td>
<td>12%</td>
<td>$485,417</td>
<td>$16,181</td>
<td>4.322</td>
<td>$209,797</td>
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<tr>
<td>Interior Finishes</td>
<td>10</td>
<td>5-15</td>
<td>15</td>
<td>60%</td>
<td>7%</td>
<td>$283,160</td>
<td>$18,877</td>
<td>2.079</td>
<td>$353,214</td>
</tr>
<tr>
<td>Elevators</td>
<td>40</td>
<td>25 up</td>
<td>30</td>
<td>50%</td>
<td>3%</td>
<td>$121,354</td>
<td>$4,045</td>
<td>4.322</td>
<td>$262,246</td>
</tr>
<tr>
<td>Plumbing</td>
<td>30</td>
<td>20-80</td>
<td>40</td>
<td>50%</td>
<td>4%</td>
<td>$161,806</td>
<td>$4,045</td>
<td>7.04</td>
<td>$569,556</td>
</tr>
<tr>
<td>HVAC</td>
<td>25</td>
<td>15-75</td>
<td>25</td>
<td>50%</td>
<td>15%</td>
<td>$606,771</td>
<td>$24,271</td>
<td>3.386</td>
<td>$1,027,263</td>
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<tr>
<td>Electrical</td>
<td>35</td>
<td>20-75</td>
<td>25</td>
<td>50%</td>
<td>9%</td>
<td>$364,063</td>
<td>$14,563</td>
<td>3.386</td>
<td>$616,358</td>
</tr>
<tr>
<td>Fire Protection</td>
<td>50</td>
<td>20-100</td>
<td>40</td>
<td>30%</td>
<td>1%</td>
<td>$40,451</td>
<td>$1,011</td>
<td>7.04</td>
<td>$85,433</td>
</tr>
<tr>
<td>Special Equip/Misc</td>
<td>30</td>
<td>10-50</td>
<td>20</td>
<td>20%</td>
<td>2%</td>
<td>$80,903</td>
<td>$4,045</td>
<td>2.653</td>
<td>$42,927</td>
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<tr>
<td><strong>TOTALS</strong></td>
<td></td>
<td></td>
<td></td>
<td>100%</td>
<td></td>
<td>$4,045,140</td>
<td></td>
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</tr>
</tbody>
</table>
### OPERATING COST ANALYSIS

Center for Humanities  
University of Colorado Health Sciences Center

Operating Costs in $/GSF

<table>
<thead>
<tr>
<th>Category</th>
<th>Cost/GSF/Year</th>
<th>GSF</th>
<th>Annual Operating Costs</th>
<th>Categorized Annual Operating Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Utilities</strong></td>
<td>$ 2.55</td>
<td>15,887</td>
<td>$ 40,512</td>
<td>$ 40,512</td>
</tr>
<tr>
<td><strong>Operating &amp; Maintenance</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Building Maintenance and Repairs</td>
<td>$ 1.80</td>
<td>15,887</td>
<td>$ 28,597</td>
<td></td>
</tr>
<tr>
<td>Environmental Services</td>
<td>$ 0.77</td>
<td>15,887</td>
<td>$ 12,233</td>
<td></td>
</tr>
<tr>
<td>Grounds Maintenance</td>
<td>$ 0.26</td>
<td>15,887</td>
<td>$ 4,131</td>
<td></td>
</tr>
<tr>
<td>Environmental Health and Safety</td>
<td>$ 0.25</td>
<td>15,887</td>
<td>$ 3,972</td>
<td></td>
</tr>
<tr>
<td>Police/Security</td>
<td>$ 0.72</td>
<td>15,887</td>
<td>$ 11,439</td>
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</tr>
<tr>
<td>Insurance</td>
<td>$ 0.22</td>
<td>15,887</td>
<td>$ 3,495</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td></td>
<td></td>
<td>$ 63,866</td>
<td>$ 63,866</td>
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<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td>$ 104,378</td>
<td>$ 104,378</td>
</tr>
</tbody>
</table>
Library Space

Any additional space requirements in the Library which may arise as a result of this project can be accommodated in the program plan for the new Library at Fitzsimons.

Independent Third Party Review

The third party review of this program plan, conducted by H + L Architecture, Denver, Colorado, is attached on the following pages.
Student Demographics

The Center for Bioethics and Humanities provides programs that are utilized by the entire UCHSC student body, the UCHSC faculty, and the community at large. The following table portrays current and projected counts for the USHCS student population and faculty. Future enrollment projections are currently under review in light of recent census data and projections for the state of Colorado for whom health care providers are trained by UCHSC.

Projected & Actual UCHSC Student & Faculty

<table>
<thead>
<tr>
<th>Program Service</th>
<th>Actual FY99-00</th>
<th>Actual FY00-01</th>
<th>Actual FY01-02</th>
<th>Projected FY02-03</th>
<th>Projected FY03-04</th>
<th>Projected FY04-05</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Students</td>
<td>2,345</td>
<td>2,360</td>
<td>2,367</td>
<td>2,464</td>
<td>2,544</td>
<td>2,573</td>
</tr>
<tr>
<td>Total Faculty</td>
<td>2,698</td>
<td>2,750</td>
<td>2,822</td>
<td>2,918</td>
<td>2,977</td>
<td>3,036</td>
</tr>
</tbody>
</table>

The student population is currently constrained by the limited facilities at the obsolete 9th Avenue and Colorado Boulevard campus. The faculty will be able to expand along with research opportunities when the Research Complex I facility is completed at the Fitzsimons campus.

Acknowledgements

The development of this program plan would not have been possible without the expert design and planning assistance of Hartronft Fauri Architects, P.C., Boulder, Colorado, and the technical expertise of the staff of the Health Sciences Center.