

The Montana University System

A Budget Proposal for the FY-06/07 Biennium

Proposed Budget Initiatives

Montana Tech

The University of Montana

State Need

Establish the *Institute for Biomedical Engineering and Research*

Market Reality

The growing crisis in healthcare costs, the predicted shortfall of health care professionals, and the spectacular development of diagnostic and clinic techniques will cause the health care industry to develop increasingly sophisticated engineered solutions to medical problems.

Current Problem

The Montana University system needs to expand supportive engineering programs to the developing healthcare industry. This initiative would establish a formal biomedical engineering research program at Montana Tech in collaboration with medical facilities and private industry in Montana.

Proposed Solution

Montana Tech will establish the Institute for Biomedical Engineering and Research. The Institute will provide a venue for medical doctors and health professionals to work with Montana Tech engineers and students to develop innovative processes and technologies to improve the quality of life and health care at an affordable cost. The Institute will include membership from the private sector, regional healthcare facilities and area Local Development Corporations. The institute will support students, recruit research faculty and host visiting medical researchers. Corporate partnerships and competitive grants will be used to sustain the center after this initial start up phase.

Required Investment

The funding required to establish the Institute would be \$3,000,000.

Return on Investment

The results of this collaborative research in biomedical engineering will impact the national medical workforce and the economy of the region. Students will actively participate in medical device research and will be encouraged to continue their education in this field of current underemployment. The regional economy will benefit from the manufacture of these new medical devices. It is expected that this high value technology development will bring high paying jobs and spin off small businesses and companies that will improve and diversify the regional and state economy. Health care is the largest industry in the United States. Establishing the Institute for Biomedical Engineering and Research will enhance Montana's competitiveness in the growing field of medical device engineering and application.

Selected Examples of Return

The Institute for Biomedical Engineering and Research will build on existing collaborations with the International Heart Institute in Missoula and Big Sky Neuroscience and Spine in Butte. The Institute will expand these relationships to include applications of biomaterials, development and testing of noninvasive diagnostic techniques, and computer modeling of the electrical, mechanical and fluid transport systems of the human body.

State Need

Establish the *Health Sciences Center*

Market Reality

Over the past several years, a number of individuals and business entities have been actively engaged in planning or developing companies in Butte that will be able to respond to the explosive growth occurring in various sectors of the health care industry. Other established organizations, like St. James Healthcare, are looking for opportunities to contribute to this expanding market. Montana Tech has expanded its health science offerings to include a Bachelors degree in Nursing as well as the nation's first undergraduate degree in Health Care Informatics. An outgrowth to these efforts has been the establishment of The National Center for Healthcare Informatics.

Current Problem

Existing healthcare manpower shortages will continue to play an integral role in shaping the future of healthcare education programs. This opportunity lacks a physical and intellectual locus in Butte.

Proposed Solution

This initiative will provided start up funding to organize a university/industrial/hospital collaboration in Health Sciences. In addition, the funding will be used to seek matching Federal and Corporate funding for the construction of facility dedicated to Health Sciences. The proposed Health Sciences Center will integrate three related health care activities into one facility in Butte. They include

- 1) The National Center for Health Care Informatics, established in Butte in 2000 through an initial federal appropriation of \$400,000;
- 2) The Environmental Medicine Center is a new effort to develop the unique opportunities that exist in the area of environmental medicine. Currently very few environmental medicine centers exist in the United States with most being located on the East Coast.
- 3) Nursing Education Center. . Montana Tech's nursing program has undergone significant growth both in students and staffing over the past five years. Currently, Montana Tech has approximately 350 nursing students. Limited space is available at Montana Tech for the instructional and faculty offices required for this program.

Required Investment

Construction costs estimated at \$20,000,000. State partnership sought at \$5,000,000.

Return on Investment

The Health Sciences Center would provide a platform to bring together numerous local healthcare-related businesses to develop commercial opportunities in multiple facets of the healthcare industry. This facility will provide a synergistic environment that will result in a more integrated approach to solving healthcare-related issues and will include a capability for health care product development and usability testing of new products.

Selected Examples of Return

The Health Science Center will provide real time usability testing of medical hardware and software for collaborating vendors. It will undertake research and development activities in support of specific product development under contract to medical systems providers.

State Need

Provide transition funding for the *Montana Tech Economic Development Resource Center*

Market Reality

The economy of Montana and southwest Montana in particular is experiencing an extreme economic slowdown as a result of the reduction of job opportunities in the resource industries. Local communities and the State government continue to increase their efforts to grow existing businesses and to further develop opportunities for new investments in the region.

Current Problem

Montana Tech has successfully developed an Economic Development Resource Center to support local economic development. Current funding was appropriated in FY 2002 through the Department of Commerce (H. Rept. 107-278) in the amount of \$300,000. This funding will be exhausted in June of 2004.

Proposed Solution

The Montana Tech Economic Development Resource Center is the focal point within Montana Tech to coordinate and facilitate the numerous economic resources that are available within the University with local economic development agencies. The Center makes these resources available to local economic development agencies and new and expanding companies in Southwest Montana. Specific goals include:

- Establish and support working relationships between Montana Tech and the existing economic development agencies and businesses in Southwest Montana.
- Develop partnerships between regional business and Montana Tech to insure the orderly flow of intellectual property from the University into the marketplace.
- Provide liaison between start up businesses, the investment community, and/or government agencies to identify appropriate funding opportunities for businesses.
- Conduct and subsidize business seminars for small businesses in southwest Montana.

Required Investment

This proposal is for \$100,000 in bridging funds to support of the Economic Development Resource Center on the campus of Montana Tech as we continue to build a self sustained economic model.

Return on Investment

- This program allows Montana Tech to assist in the economic development efforts currently being pursued by local and state agencies in southwest Montana.
- The Center continues to help in the recruitment of business to Southwest Montana by its proactive brokering of Montana Tech's physical and intellectual resources to new and expanding regional businesses
- The Center serves as the Technology Transfer agent for Montana Tech.
- The Center encourages and develops intellectual properties developed by the faculty and staff of Montana Tech for transfer to regional businesses

Selected Examples of Return

Served to coordinate and support the BEAR (Business Expansion and Retention) program of Butte. Assist in the recruitment and of Big Sky Wireless to Butte.