MontanaTech
THE UNIVERSITY OF MONTANA
1300 W. Park Street
Butte, MT 59701

Regular Interim Report
April 2005

Submitted to
Northwest Commission on Colleges and Universities
8060 165th Avenue NE, Suite 100
Redmond, WA 98052

MontanaTech
THE UNIVERSITY OF MONTANA

Vision*

To be a leader for undergraduate and graduate education and research in the Pacific Northwest in engineering, science, energy, health, information sciences and technology.

Mission*

To meet the changing needs of society by supplying knowledge and education through a strong undergraduate curriculum augmented by research, graduate education and service.

Guiding Principles

To honor our heritage as a premier engineering institution

To attract and educate motivated and capable students

To provide a quality education that blends theory with practice

To recruit, encourage and enable faculty to develop regional and national reputations in teaching and research

To collaborate with others to serve the needs of the community, the State of Montana, and the Nation

*Pending Board of Regents Approval

MONTANA TECH OF THE UNIVERISTY OF MONTANA

College Leadership

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Doug Abbott, Dean, College of Humanities, Social Sciences and Information Technology
Doug Coe, Dean, College of Mathematics and Sciences
H. Peter Knudsen, Dean, School of Mines and Engineering
Jane Baker, Dean, College of Technology

Colleges and Schools

College of Humanities, Social Sciences and Information Technology – *Providing the foundation for business, public policy, human values, technical communications and information technology.*
College of Mathematics and Sciences - *Developing and building strong practicalities in science - including health science, computing, and mathematics*
School of Mines and Engineering - *The application of math and science to developing solutions to societal needs*
College of Technology - *The fundamental application of applied technology in the areas of health, automotive, business, drafting, networking and engineering*

Executive Summary: Regular Interim Report

This regular interim report outlines the considerable progress Montana Tech has made in correcting the deficiencies noted in the evaluation committee report.

2000 General Recommendation 1. *Montana Tech worked within its organizational structure to achieve a mission statement that informs the institution and the state about its unique role. The campus worked again to make the statement of vision and mission more succinct. It has been submitted to the Montana Board of Regents for approval. The strategic plan, "Building the Future while Honoring our Heritage" is completed and has been through one assessment cycle. (This recommendation also covers the regular interim questions of PART B.)*

2000 General Recommendation 2. *Montana Tech obtained new sources of revenue through increased enrollment, retention, grant awards, and increased tuition. A Vice Chancellor for Institutional Advancement and President of the Foundation was hired in August of 2002.*

2000 General Recommendation 3. *Outcomes assessment is in place, results are examined, and program improvements are implemented based on the results in all academic programs and institutional wide. Each of them is making significant progress in assessment. This section also covers the regular interim questions of PART B concerning programmatic assessment.*

2000 General Recommendation 4. *While cumbersome, Montana Tech has worked to improve communication and collaboration within the administrative structure following the restructuring. The institution has managed its curriculum with the addition of responsive new programs. Personnel and financing personnel work collaboratively on a near daily basis. Work by the Commissioner's office has further clarified outstanding issues from the restructuring.*

2003 General Recommendation 1. *Active communication is critical to working together as The University of Montana. The executive leadership meets for retreats every two months. Financial offices conference call weekly.*

2003 General Recommendation 2. *Montana Tech has paid particularly close attention to assessment at the program level. Each spring, a summary assessment is due in the Office of Academic Affairs. In odd years, the assessment must also include evaluation and action plans from the results of the Student Satisfaction Inventory.*

Montana Tech will continue to vigorously pursue new sources of revenue, continue active recruitment and work to insure that students reach their learning goals. The institution will forge ahead with its partners and constituencies in fulfilling the mission.

PART A

PART A covers the actions Montana Tech has taken regarding recommendations. This section addresses the recommendations from the 2000 full evaluation visit and the 2003 interim visit. If the sections address the questions from PART B as a part of the regular reporting, they are so noted here and not repeated in PART B.

Introduction

The regional accreditation of Montana Tech of The University of Montana was reaffirmed in the Spring of 2000, on the basis of a comprehensive self-study and a full-scale evaluation and visit by a committee of ten members. The report reaffirming accreditation requested a written progress report in the Spring of 2002 addressing: General Recommendation 1- Institutional Mission and Goals; and General Recommendation 2 - Current Funding. The progress report was successfully submitted April 15, 2002. The accreditation was reaffirmed on the basis of the focused interim report and visit regarding General Recommendations 1, 2, 3 and 4 of the Spring 2000 evaluation report on June 30, 2003.

Part A of this regular interim report outlines the action taken regarding General Recommendations 1, 2, 3 and 4 from the 2000 visit and recommendations 1 and 2 from the 2003 visit. Part B of this regular interim report addresses other institutional changes since the last full self-study and visit. The general recommendations by the visiting committees are:

2000-1 *The evaluation team recommends that Montana Tech work within its organizational structure to achieve a mission statement that informs the institution and the state about its unique role, including the unique role of the College of Technology. In addition, the team recommends that the institution expedite completion of the current strategic plan, specifically the development and implementation of institutional goals and evaluation processes*

2000-2 *The evaluation team recommends that Montana Tech vigorously pursue new sources of revenue, immediately take steps to boost enrollment by recruiting and retaining more students, and to work with its partners in the foundation, The University of Montana, the Montana University System, the Commissioner, Regents, and Legislature to improve its financial status*

2000-3 *Montana Tech is strongly encouraged to increase significantly the number of programs and activities for which outcomes assessment is in place, results are examined, and program improvements are implemented based on those results.*

2000-4 *The evaluation team is concerned about the ability of the institution to manage its curriculum, personnel and finances following the restructuring. Work remains to be done in clarifying roles in the administrative structure and lack of understanding about roles of the campuses must be addressed.*

2003-1 *It is clear by all accounts that the restructuring of the Montana University System was not something that Montana Tech sought or necessarily welcomed. The nature of the restructuring was perhaps not fully designed before it was implemented with good intention. Consequently, the structure has evolved based on the personalities and unwritten (perhaps even unstated) understandings. Likely, the structure will continue to evolve and change as administrators retire or change positions. It is recommended that the University document the understandings that drive the relationships between the campuses (Standard 6.A.4). In the long term, the Board of Regents may consider changes in the structure that insures that the President of The University of Montana is the visible and active president of all four campuses and not specifically assigned administratively to the Missoula campus.*

2003-2 *Montana Tech has made notable progress in assessment and documented both the results of that assessment and resulting program changes. However, this success was not evident in all programs. There are still some programs where assessment is not documented. It is*

recommended that the institution identify the "holdouts" and pay careful attention to fully satisfying Standard 2.B in all academic programs.

The report that follows addresses the significant progress Montana Tech has made in correcting each of these deficiencies.

PROGRESS ON 2000 - GENERAL RECOMMENDATION 1

2000 General Recommendation 1

The Commission on Colleges' standard on Instructional Mission and Goals expects the mission to define the institution and that evaluation of the institution's effectiveness will proceed from the institution's own definition of its mission and goals. The mission statement recently adopted by Montana Tech does not provide the institution with sufficient clarity or specificity to guide future planning or enable the required assessment of institutional effectiveness. The vision statement that follows the mission statement begins to provide the necessary clarity and specificity. The current strategic planning process, "Building the Future while Honoring our Heritage," if it results in clearly stated goals for institutional effectiveness and specifies how the institution will measure its success in achieving those goals, will provide Montana Tech with the necessary elements to engage in ongoing planning and evaluation expected by the Commission on Colleges. The evaluation team recommends that Montana Tech work within its organizational structure to achieve a mission statement that informs the institution and the state about its unique role, including the unique role of the College of Technology. In addition, the team recommends that the institution expedite completion of the current strategic plan, specifically the development and implementation of institutional goals and evaluation processes (Standard One; 1.A, 1.B).

Progress on General Recommendation 1 – Significant progress has been made in remedying the deficiencies outlined in General Recommendation 1. The mission statement was clarified and a strategic plan was developed and has been assessed through one cycle. The continual assessment of the strategic plan will result in an update in the Spring of 2005.

Working with the faculty, the mission statement was rewritten by the Strategic Planning Committee in 2001 to reflect the values stated in the vision statement. The evaluation team had found the vision statement to be appropriate. The faculty and the Board of Regents approved the new mission statement on March 22, 2001.

The campus modified those mission and vision statements in the Fall of 2004. The campus Strategic Planning Committee was charged with streamlining the mission statement so that the efforts in marketing, planning and fundraising could use it more effectively as a tool while still maintaining the context that was approved in 2001. The committee sought input from faculty, staff, representative committees, and Foundation advisory board membership. The following mission/vision/guiding principles statement was accepted by the campus with a vote of 96 accept - 11 reject email poll. The document has been submitted to the President of The University of Montana in preparation for submission for approval from the Board of Regents in the Spring of 2005.

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To honor our heritage as a premier engineering institution
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Figure 1 Streamlined mission/vision statement forwarded to the Board of Regents Spring 2005.

The current Board-approved mission and vision statements that resulted from the work in 2001 follows:

Mission Statement

Montana Tech of The University of Montana is a comprehensive university emphasizing science and engineering with a national and international reputation for excellence. Programs range from occupational through graduate levels in engineering and selected other fields. The campus is dedicated to assisting students attain success in their academic, professional, and individual life goals. A personalized set of support services is available to all students. Students study in a learning environment that stresses practical, hands-on experiences and internships. Montana Tech programs are designed to produce graduates who are well rounded, competent, responsible, and ethical professionals.

Montana Tech of The University of Montana serves as a cultural and events center for the local community and Southwest Montana. It promotes science literacy, generally, specifically encourages careers in engineering and science, and offers an expanding array of external studies and outreach programs. The economic development of the immediate service area and the state of Montana is an important part of the outreach activities.

Research is incorporated into the curriculum as an essential learning technique. Research and other scholarly activities of the faculty, staff, and students contribute to innovation and problem solving; provide practical solutions for business and industry; and add to the general body of knowledge. The Montana Bureau of Mines and Geology, along with the academic departments and several other focused research centers, play critical roles in support of resource-based industries in Montana and around the world.

Vision Statement

Maintaining a close association with the resource-based industries and alumni allows Montana Tech to blend high quality formal instruction with hands-on learning, team projects, research, relevant work experience and co-curricular activities. As a result, graduates are firmly grounded in general education and well prepared to pursue their chosen careers after graduation. While honoring our heritage, we will constantly evolve our programs to meet the needs of the future.

Figure 2 Mission and vision statements approved in 2001.

Montana Tech has long taken pride in its excellence in education as evidenced by the successes of its students. Sustaining this excellence requires continuous attention to the outcomes. Student and institutional outcomes were formally developed by the campus from the basis of the mission statement. Those outcomes are:

Montana Tech Students will have or be able to:

- Function on teams
- Relevant work experience
- Express oneself in written and oral form
- Critical thinking skills

- Global/multicultural awareness
- Appreciation for diversity
- Understanding the scientific method
- Function at the algebraic level
- Appreciation for lifelong learning
- Prepared for entry-level employment

Montana Tech as an Institution will have or be able to:

- Attract a diverse student body
- Retain students to graduation or achievement of their learning goal
- Grow the enrollment
- Aid students in obtaining career employment
- Increase research productivity
- Provide relative service to Montana and beyond

These outcomes and their assessment are further discussed in section 2000-General Recommendation 3.

Our five-year strategic plan, *Building the Future While Honoring Our Heritage,* was completed in the Spring of 2001(see attachment I). Formal assessment of the strategic plan took place Fall 2002 and is scheduled again for Spring 2005 in preparation for modifying the plan to look to the future. This assessment indicates that implementation is progressing well and will set the stage for the next iteration of the strategic plan. The strategic plan was designed from the mission and vision statements. The completed plan has five goals. Each goal has a series of objectives with specific assessments to measure progress towards achieving the objectives. An executive summary of the strategic plan is presented here. The complete assessment of the plan is included in attachment II. Highlights of the progress toward meeting each of the five goal objectives follow the executive summary.

BUILDING THE FUTURE WHILE HONORING OUR HERITAGE
Executive Summary of the Five-Year Plan for Entering the Twenty-first Century

The major theme of this plan is to set goals that will keep Montana Tech at the forefront of those disciplines that currently serve the citizens of Montana, the nation, and the world while developing the areas that will serve the future. Achievement of the five goals requires every citizen and supporter of Montana Tech to stretch the limits of their abilities. These are lofty goals that move Montana Tech forward well into the 21st Century.

Montana Tech of The University of Montana is a specialty institution emphasizing science and engineering with a national and international reputation for excellence. While honoring our heritage, we will constantly evolve our programs to meet the needs of the future.

Montana Tech Strives to: SUSTAIN AND ENHANCE THE QUALITY OF ALL PROGRAMS

Montana Tech seeks to accomplish this goal through:

- Continuing to develop and maintain a world-class faculty and staff.
- Strengthening Montana Tech's role in the development and application of the technologies of the twenty-first century and the core programs that support them.
- Sustaining the integrity of Montana Tech's heritage in the extractive industries.
- Enhancing the quality of resources available to the instructional programs.
- Maintaining a nationally competitive salary structure for faculty and staff.
- Increasing opportunities for learning anytime, anyplace.
- Expanding outcome-based assessments of students.

Montana Tech Strives to: SUSTAIN AND ENHANCE RESEARCH AND SCHOLARLY ACTIVITIES

Montana Tech seeks to accomplish this goal through:

- Providing the infrastructure and incentives to engage in competitive research and scholarly activity.
- Providing students with opportunities to engage in research at the undergraduate and graduate level.

Montana Tech Strives to: PARTNER WITH INDUSTRY IN ECONOMIC DEVELOPMENT

Montana Tech seeks to accomplish this goal through:

- Enhancing ongoing support and identifying opportunities to support new and expanding companies.
- Providing a central focus at Montana Tech to support regional economic development efforts.

Montana Tech Strives to: MARKET THE INSTITUTION NATIONALLY

Montana Tech seeks to accomplish this goal through:

- Establishing an effective, capable, and integrated marketing enterprise for the campus.
- Expanding Montana Tech's image and the awareness in regional, national, and international markets.
- Strengthening alumni relations.
- Improving development and institutional advancement efforts.
- Improving the campus service mission and recognition through enhanced outreach.

Montana Tech Strives to: IMPROVE FUNDING MODEL

Montana Tech seeks to accomplish this goal through:

- Seeking increased base funding from the Montana Legislature.
- Improving the funding throughout the Montana University System.

HIGHLIGHTS OF THE PROGRESS TOWARD MEETING EACH GOAL OBJECTIVE

GOAL 1. ***Sustain and enhance the quality of all programs - Develop and identify actions that contribute directly to sustaining and enhancing the quality of all programs at Montana Tech.***

Objective 1. ***Continue to develop and maintain a world-class faculty and staff.***

Faculty and staff salaries were increased by 3% in 2000-01 and by 4% in 2001-02. Additionally, in 2004, 0.5% of the salaries was distributed for equity. This matches the 0.5% achievement pay for classified personnel. Although no increases took place in 2003-04, there was an across-the-board increase of $500 in January 2005. The negotiations with the units are currently underway and have thus far indicated an increase in salary of 3.5% and 4% anticipated for FY06 and 07. This is pending action at the Legislature. Every effort is made to satisfy the professional development needs of the faculty. Requests for funds are typically split between the department, dean and the academic vice chancellor. If research interests are involved, the Research office frequently assists with professional development costs. When possible, the faculty and staff of Montana Tech are invited to attend development activities on the Missoula campus.

Objective 2. ***Assure Montana Tech's role in the development and application of the technologies of the 21st century and the core programs that support them.***

Assessment of technology-driven programs led to the approval of a BS program in Health Care Informatics that was offered for the first time in the Fall of 2002. This is a joint program with St. James Healthcare Center and is partially funded by a federal grant. The committee identified several areas of concentration for Montana Tech for exploration as to future educational or research programs. Two programs were identified for further investigation in FY04: nano-materials and environmental health. A major proposal effort is underway in the environmental health area and a center is in the planning stages in supramolecular nano-materials. A third area of programmatic expansion in biomedical engineering was also identified and has obtained funding from the NSF.

Objective 3. ***Assure the integrity of Montana Tech's heritage in the extractive industries.***

Enhanced marketing has improved the enrollment in several low-enrollment programs related to the extractive industries. A tuition/fee waiver was approved by the Board of Regents in July 2002 that allows recruitment into the low-enrollment programs at restricted numbers at 150% of the resident tuition. The waiver is awarded competitively to students from the three adjacent Canadian Provinces and any state in the United States. To assist the nation in addressing the needs of the workforce in the minerals related industries, the Dean of the School of Mines and Engineering sits on the Society of Mining Engineers work group. The Vice Chancellor for Academic Affairs accepted a 3-year appointment to the Committee on Earth Resources whose focus is on the nation's resource base. The Career Services director is recruiting for the specialty programs in the School of Mines and Engineering while also recruiting companies who are interested in hiring Montana Tech graduates.

Objective 4. ***Maintain and enhance the quality of resources available to the instructional programs.***

Plans are in place to allocate the student fee monies provided for information technology and equipment. Planning allows for the most strategic use of the limited funds. A plan for replacement of computer equipment and campus network wiring is in place. Planning for replacement of faculty and staff computers, and classroom technology updates are also available. With the bond monies for classroom laboratory improvements, at least two classrooms in each building now have dedicated computers, VCRs, and data projectors. Planning is underway for improvement of a large lecture classroom in the Engineering and Laboratory Classroom Building. The campus Space Utilization Committee is prioritizing the needs of the academic spaces. Department heads will submit needs in

January of 2005. The campus Space Utilization Committee will prioritize the needs for campus physical facilities services. A new computer lab was completed in the Mill Building. This is a wireless lab with flexible floor wiring to enhance the teaching/learning environment. Planning is ongoing for remodeling of the space previously occupied by the Computer Lab in Engineering Hall. Engineering student teams were allocated space at the Mineral Research Center for use in preparation for design contests. The Vice Chancellor for Research continues to facilitate the NSF grant submissions for equipment in the academic programs.

Objective 5. Improve faculty and staff salaries to 100% of the CUPA rank/discipline averages of peer institutions.

While Montana Tech does not have a CUPA model in place for determining faculty salaries, we do make new hires at as close to CUPA as possible without inverting other members of the same departments. Inversions are identified and corrected when they occur. Faculty and staff salaries were increased by 3% in 2000-01 and by 4% in 2001-02. A percentage of 0.5 of all salaries was distributed to begin the process of correcting compression with the professors. The plan is to apply this adjustment each year to the full professors. The faculty Salary Committee is working with the Chancellor to prepare a plan that includes target salaries. The Research Salary policy allows a faculty member with grant buyouts from teaching assignments to be paid at the research rate of 100% of CUPA. The Montana legislature is currently in session. The funding bill contains a 3.5% and 4% raise for FY06 and FY07 respectively.

Objective 6. Increase the opportunities for learning any time, any place.

Montana Tech has increased the on-line delivery of courses and programs to reach out to place bound individuals. We currently have 256 credits developed for on-line delivery. Two graduate-level programs and one associate degree are offered on-line. These were designed at the request of the students. Nursing students, many who work while attending school, request on-line coursework to facilitate their shift schedules. The Jump Start program reaches out to nearby counties to deliver collegiate level instruction in the high schools to qualified juniors and seniors. This is moving toward a dual credit program with the recent approval by the state of Montana to collect FTE on a dual basis. Courses that appeal to the community are also being offered such as Fly Fishing, First Aid, Bioethics, Personal Financial Management, Historic Preservation, Rock Climbing, Winter Ecology, Underground Mine Tour, Scuba Diving, and Butte History.

Objective 7. Expand outcome-based assessments of students.

CAAP testing began in 2001 with a sample set. The fifth testing will run in January 2005. Montana Tech is at or above the national average in all areas of testing for the junior class. The engineering and nursing students participate in national testing for licensure. Other areas such as automotive and welding are participating in outcomes assessment at the certification level. The faculty are currently reviewing what achievement levels should be met on the CAAP exam and how to equitably enforce the requirement.

GOAL 2. ***Sustain and Enhance Research and Scholarly Activities***

Objective 1. Provide faculty and staff with the infrastructure and incentives to engage in competitive research and scholarly activity at the national level.

A new policy approved in the Spring of 2002 permits faculty to better utilize grant funds to improve their salaries. A larger percentage of indirect costs are now being returned to individual investigators and to their departments. A small portion of the campus indirect costs is set aside to fund initiatives leading to grant awards. New faculty are assigned a reduced load for their first year on campus to assist in research program building. Several new centers have been approved as part of the campus research/education enterprise. They include the Rocky Mountain Agile Virtual Enterprise Center and

the Economic Development Resource Center. The campus participates with VPI and WVU in the Center for Advanced Separation Technology, and the Center for Supramolecular Nano-Materials is currently in the approval process. The campus has also been awarded a major grant by the NIH to expand its effort in emerging infectious diseases, immunology and molecular biology. The campus participates with Colorado School of Mines and the University of Wyoming in the Rocky Mountain Center for Energy Excellence. Programs are encouraged to write faculty lines into grants that would enable them to build faculty expertise using grant funds for the first 3 years. Matching monies for equipment grants are a high priority when the deans are allocating equipment fees to the programs.

Objective 2. ***Provide Montana Tech students with opportunities to engage in research at both the undergraduate and graduate level.***

The undergraduate research program has experienced over a 100% increase in participants over 2001. In addition, undergraduate student participation at national meetings has increased sixfold. Graduate stipends were increased to make the offer more competitive. Montana Tech is the recent recipient of an Alfred P. Sloan grant to increase the number of American Indians with masters degrees in science and engineering.

GOAL 3. ***Economic development and work force training in Montana – Support business and industry development.***

Objective 1. ***Support business and industry development through enhancing the effectiveness of our ongoing support for Montanan businesses and industries and identify opportunities to support new and expanding companies. Provide a central focus at Montana Tech to support regional economic development efforts.***

A federal grant has made it possible to make significant progress in implementing this goal. A grant for $350,000 has been obtained to establish an Economic Development Resource Center. A report was prepared by the Montana University System to show the economic development support for the state of Montana by the Montana University System in 2002. Each institution reported on economic development activities. The profile of Montana Tech is included in the appendix.

Objective 2. ***Expand continuing education and workforce training programs related to education and providing services to the population of Southwest Montana.***

Montana Tech responds rapidly to requests to offer training, certificates and programs in Southwest Montana. Specifically, Montana Tech worked closely with The University of Montana – Missoula to bring their surgical technician program to Butte at the request of St. James Healthcare. The College of Technology offered technical training in the areas of Computer Aided Drafting, Automotive, Metals Fabrication, and Business Software. Historic Preservation and Radiologic Tech are new offerings at the request of local industry. Montana Tech was awarded a health sciences grant to expand interest in health careers in the high schools. A federal grant of $1.6 million has been obtained to conduct a certificate program for training underground miners.

GOAL 4. ***Marketing – Establish an effective, capable, and integrated marketing enterprise for the campus.***

Objective 1. ***Expand Montana Tech's image and the awareness of Montana Tech in regional, national and international markets.***

The Montana Tech Foundation has provided $170,000 in FY02 and 03 to enhance the marketing program of our institution. In FY04 and FY05, the institution replaced those foundation monies with state dollars. An FTE enrollment increase of 2.8% was experienced in the Fall of 2002. Innovative campus collaboration on the applicant recruit database and the Call Center help to strengthen this effort. In 2004 Princeton Review ranked Montana Tech as one of the top 4 best values in public

education in the United States and states Montana Tech is..."one of the best small science and engineering colleges in the world." A brand audit was conducted by Stamats in May of 2004. Institutional marketing efforts continue to build on their assessment efforts.

Objective 2. Strengthen alumni relations.

Alumni events are being hosted nationally with coordinated effort between the institution and the Alumni Association, Admissions, and the Foundation. M-News is now a joint publication between the Alumni Association, Alumni Services, and the Foundation. A web master has been hired to facilitate electronic communications for the purpose of recruitment and enhanced communications. A new web page was released January 2005. The audit by Stamats surveyed the alumni. Their preferences concerning communications will be incorporated in the communications plan. The Alumni Association has agreed to have the Director of Alumni Relations serve as Executive Director. This will strengthen the association and Montana Tech. A reorganization of the Office of College Relations and Marketing has resulted in a full-time Director of Public Relations and a Director of Alumni Affairs. Previously the duties were combined into a single position. A new marketing and development team has been formed. Membership includes the following: Director of Admissions, Director of Alumni Affairs, Director of Public Relations, President of the Foundation, Director of Career Services, one member of the Deans Council, and the Chancellor.

Objective 3. Improve development and institutional advancement efforts.

A Vice Chancellor for Institutional Advancement and Development and the President of the Foundation was hired in August of 2002. All four Deans have attended the CASE Development for Deans conferences. The Vice Chancellor has met with the various colleges/schools on campus to begin the process of a coordinated effort for fundraising. Requests with justifications have been compiled into a portfolio in an effort to kick off the silent phase of the capital campaign in July 2005 pending Foundation board approval. A request to the Board of Regents to include a line item for the capital campaign includes making the deans full-time administrators. This involves releasing them from their duties as department heads and participating in the classroom at a part-time limited basis.

Objective 4. Improve the campuses service mission and recognition through enhanced technical and educational outreach.

Montana Tech participates in Upward Bound to prepare low-income first generation students to succeed in college. The Upward Bound grant currently covers the Anaconda, Helena and Butte area. A second grant has been submitted to reach out to Deer Lodge. College courses are offered in the evenings to qualified high schools in the communities of Butte, Ronan, Ennis, Whitehall, and Anaconda. The regional science and engineering fair is hosted on the campus each spring for both high school and elementary students. An NSF grant will assist the campus in reaching out to the rural schools to assist the schools and the students in competing at the regional science fairs. The Tour of Nations takes place each spring break to promote Native American participation. Native American undergraduate students from Montana Tech visit Montana high schools to lead engineering activities in the classroom. The Technical Outreach office was awarded a grant to educate the teachers and the students along the Clark Fork in the science of waterways and the environment.

GOAL 5. ***Improve funding model.***

Objective 1. Seek increased funding from the Montana Legislature.

On January 25, 2002, a breakfast meeting was held with legislators from our area of Montana. This meeting included faculty and administrators of Montana Tech and President George Dennison of The University of Montana. A number of local business leaders also interacted with legislators at this meeting. The purpose of the meeting was to alert members of the legislature to possible new ways of approaching funding for the Montana University System. A similar meeting was held the evening of

December 16, 2002 to discuss the 2003 Legislative Session with local legislators. The Montana Tech Foundation provided some financial support for a grass-roots group, *Alliance for Montana's Future*, that operated across the state to gain citizen support for higher education. In another effort to show how the investment in research has paid dividends, the research accomplishments of The University of Montana-Missoula, Montana State University–Bozeman, and Montana Tech of The University of Montana are being put into an electronic format that can be used for presentations across the state, or that can be accessed through institutional web sites. A second meeting with the local legislative representatives was held December 2002 and December 2004. These meetings keep the communication channels open. Montana Tech worked with the MUS to submit needs to the legislature in the shared leadership initiative that would reach out to the state in economic development initiatives. House Bill 540 is currently in committee. The bill includes a 9MM commitment to the Petroleum and MBMG Building. An RFP will be released to assist with equipment needs at the Colleges of Technology throughout the state.

Objective 2. ***Work with The University of Montana and the Montana University System to improve the funding model in ways that more effectively fund programs throughout the MUS and especially at Montana Tech.***

There are committees working on the funding formula and tuition policy currently under the Board of Regents. Representatives of Montana Tech serve on those committees. The Regents meeting of November 2004 included extensive discussion of the allocation model. Montana Tech campus leadership has worked diligently to explain the problem with the allocation model in reference to the cost of education. Montana Tech has the highest cost of education. With the current funding model, the combination of tuition and state funding results in Montana Tech having the lowest percentage of the cost covered. In January 2005, Associate Commissioner Rod Sundsted told the legislature that the model would be studied over the next 2 years using a consultant.

PROGRESS ON 2000 - GENERAL RECOMMENDATION 2

2000 - General Recommendation 2

The current level of funding threatens Montana Tech's capability to maintain and develop already existing high quality programs. The evaluation team was impressed with the effective way in which the institution has used available resources to maintain high quality. Innovative programs responsive to community needs are underway, and plans for further enhancements are being contemplated. However, financial resources are barely adequate to sustain existing programs. Serious deficiencies were noted in many areas of the campus. Inadequate funds for acquisition of current instructional materials, technological support, salaries, staffing, building operations maintenance, and equipment are some examples. Unless there are substantial increases in funds or new revenue streams are developed, it will take significant reallocation of funds and potential elimination of programs for Montana Tech to sustain programs. The evaluation team recommends that Montana Tech vigorously pursue new sources of revenue, immediately take steps to boost enrollment by recruiting and retaining more students, and to work with its partners in the foundation, The University of Montana, the Montana University System, the Commissioner, Regents, and legislature to improve its financial status (Standard Seven; 7.B, 7.D).

Progress on General Recommendation 2

The evaluation team recommended that Montana Tech recruit and retain more students, and work with its partners in the Foundation, The University of Montana, the Montana University System, the Commissioner, Regents and Legislature to improve their financial status. Montana Tech took this recommendation very seriously and progress was made to improve our financial status.

Montana Tech collaborated with The University of Montana and the Montana University System to persuade the 2001 Legislature to increase overall funding for higher education by about 5% for each of FY02 and FY03. This was not what we had requested nor was it the amount we needed; however, at a time when many states made significant cuts, a 5% increase compounded over two years is significant progress. Since that time, a rescission occurred of nearly $750,000. The rescission was managed through a tuition surcharge, budget cuts, and assistance from The University of Montana-Missoula. Increased enrollment in AY03 helped to alleviate the impact.

Montana Tech worked with The University of Montana and other campuses in the system to obtain a 13% increase in tuition for four-year programs and a 5% increase in tuition for two-year programs compounded for each of FY02 and FY03. Tuition increases in FY04 and FY05 were at the rate of 12% and 6% for 4-year and 2-year respectively. A proposed 12% and 4% increase has been submitted to the Board of Regents. Other fees, such as the Information Technology fee, Computer fee, Equipment fee and some program fees were increased to help offset inflationary increases in these items.

Funding was obtained from the Montana Tech Foundation to initiate an enhanced marketing plan. The marketing and the concerted efforts of the faculty and staff of the institution resulted in an increase in FTE of 2.8%. An applicant recruit database was developed to allow tracking of contact information concerning applicants to the institution. This innovative database allows the recruiters in the Admissions office and faculty contacting the prospective students to share information surrounding the recruit. This facilitates the distribution of appropriate materials to the recruit and insures that recruits are contacted regularly during their decision process. This is another example of the student centered campus efforts the institution takes such pride in.

Through the Montana Tech Foundation, and in concert with industrial advisory committees, fund-raising projects were initiated for Mining Engineering, Petroleum Engineering, Geological Engineering and Metallurgical & Materials Engineering. Similar fund raising for other programs will be initiated as resources permit.

A consultant reviewed the organization of the Montana Tech Foundation with emphasis on finding the organizational structure that will best provide fund raising and endowment management for this institution. Based on this study, a Vice Chancellor for Advancement and Development and President of the Foundation was hired in August of 2002.

The institution worked with the Commissioner's office and the Board of Regents to sensitize them to the need for the tuition policy and the funding formula to more appropriately recognize the requirements of high-cost programs. There are committees working on the funding formula and tuition policy currently under the Board of Regents. Representatives of Montana Tech serve on those committees.

A recent grant from the Department of Commerce has enabled Montana Tech to establish an Economic Development Resource Center. The center will couple campus resources in the form of faculty to ongoing economic development efforts of the region. The office's major goal is to coordinate and facilitate the economic development resources at Montana Tech and assist the efforts of the local economic development agencies in Southwest Montana.

The award of earmark funds through the Department of Labor has allowed Montana Tech to offer an underground miner-training program. This program is in response to the projected shortage of skilled labor in the mining industry. The program will also provide an underground learning laboratory for students in the natural resources programs on the campus through the use of the rehabilitated underground mine on the Butte Hill.

The number of programs and courses offered by electronic media has increased. The MS in Project Management Engineering and Industrial Hygiene is now available electronically. The Certified Nurse Assistant coursework package was approved for statewide delivery. The institutional support of the on-line courses has been enhanced through a fully functional Blackboard portal.

An application for a Strengthening the Institution grant was submitted to the Department of Education in FY02, 03 and 04. Unfortunately, they were not funded.

The Board of Regents approved a scholarship for Canadians and non-resident students in July 2002. Students in the provinces of Canada that border Montana and any state in the U.S. can compete for a reduction of non-resident tuition and fees to 150% of resident fees, if they enroll in identified low-enrollment programs and meet scholarship requirements.

National Science Foundation grants were obtained to fund large equipment acquisitions in the areas of Biology, Geomechanical Engineering and Metallurgical & Materials Engineering. Requests of this type of equipment grants are submitted each year. The campus has been the fortunate recipient of a number of NSF equipment grants over time.

Ten campus representatives attended a strategic enrollment management conference. The attendance will lead to a campus action plan for increased retention. An effort to further retain students through learning communities was started with a first step of cohort programming for the engineering freshmen class in Fall 2003. This cohort scheduling has resulted in more time for advising and mentoring.

Montana Tech will continue to vigorously pursue new sources of revenue, continue active recruitment and work to insure that more students reach their learning goals. At the present time, the institution is working with its partners in the Foundation, The University of Montana, the Montana University System, the Commissioner, Regents, and legislature to improve its financial status.

The Stamats audits and branding exercises have lead to an assessment of what type of institution the constituencies believe Montana Tech to be. The historic roots of the school are its strength in engineering and science. Beyond the boarders of Montana, the school is well known in the engineering degree areas. Within Montana, the school is not well known for the programs outside of engineering. The branding and audits will help Montana Tech reach out to a larger audience.

PROGRESS ON 2000 - GENERAL RECOMMENDATION 3

2000 - General Recommendation 3

Montana Tech faculty and administrators have long been attentive to and taken pride in certain program outcomes. Student perceptions about the program and student placement in positions have been monitored, and there is evidence that programs change in accordance with these data. However, both at the university-wide level and the degree program level, a plan for an integrated program of assessment has been developed only recently and is not implemented fully. Clarification and adoption of university-wide goals will facilitate the development and implementation of the assessment plan at that level. At the department level, clearer specification of student learning outcomes and corresponding measures is needed to supplement other program outcomes. Montana Tech is strongly encouraged to increase significantly the number of programs and activities for which outcomes assessment is in place, results are examined, and program improvements are implemented based on those results. (Standard One – Institutional Mission and Goals, Planning and Effectiveness; 1.B-Planning and Effectiveness; Standard Two – Educational Program and Its Effectiveness; 2.B – Educational Program Planning and Assessment; Policy 2.2 – Educational Assessment)

Progress on General Recommendation 3

Montana Tech enjoys a greater than 95% placement of students upon degree completion. This placement, at an engineering, science and technology institution happens in part through the tremendous student-centered efforts of the institution, and the high expectations of students by the faculty, coupled with close ties to the industries that employ Montana Tech students.

Assessment is an ongoing practice of the campus. Outcomes are assessed annually; mission statements, outcomes statements and objectives are assessed approximately every 3 years. The strategic plan of the campus fits well within the mission of the Montana University System and The University of Montana. The campus planning committee created the campus strategic plan, *Building the Future while Honoring our Heritage*. Input was widely sought from the constituencies of faculty, staff, students and the community where appropriate. The institutional and student outcomes are derived from the campus mission. A copy of the Implementation of Institutional Effectiveness and Assessment Activities for Continuous Improvement plan is available. The plan addresses the institutional assessment of Montana Tech including student services and academic programs. An overview of the implementation plan is presented here.

MontanaTech
THE UNIVERSITY OF MONTANA

Implementation of Institutional Effectiveness and Assessment Activities
For Continuous Improvement

Components of Integrated Assessment

INSTITUITIONAL
Institutional Mission/Vision and Goals
Strategic Plan
Educational Objectives
Educational Outcomes
Institutional Objectives
Institutional Outcomes

PROGRAMMATIC
Program Mission/Vision
Program Objectives
Program Outcomes
Program Reviews

EXTERNAL
National Rankings/reviews

Integrated Assessment Timeline

INSTITUTIONAL
Institutional Mission 3-5 Years
Strategic Plan every 2 Years
Educational Objectives 3-5 Years
Institutional Objectives 3-5 Years
Educational Outcomes Annually
Institutional Outcomes Annually

PROGRAMMATIC
Mission/Vision 3-5 Years
Program Objectives 3-5 Years
Program Outcomes Annually
Specialized Accreditation as Scheduled
Institutional Program Reviews 5 Year

Integrated Assessment Tools

ANNUALLY
Student Profile Information
Classroom Experience
Out of Class Experience
Program Exit Surveys
CAAP Exam
Placement Survey
Research Report
Graduating Senior Survey
Math Placement
Non-returning Student & Transfer Survey
Residence Hall & Food Service
Satisfaction

EVERY TWO YEARS
Student Satisfaction Survey (SSI)

3-5 YEARS+
Alumni Surveys
Employer Surveys
Institutional, Alumni, Prospective Students and Student Audit
Accreditation Exit Reports
Program Reviews

MontanaTech
THE UNIVERSITY OF MONTANA

Implementation of Institutional Effectiveness and Assessment Activities
For Continuous Improvement

Feedback Loop

ANNUALLY
Student Profile Information feeds course placement and course retention
Retention data and non-returning student data
Classroom Experience through the Curriculum Review Committee
Out of class experience predominantly internships and cooperative work experiences also student academic competitions survey feeds back to programs specifically what fields and where students are applying their skill set
Exit surveys of students at program level feeds back to the program for longitudinal data of viewpoint of a senior completing the program
Graduating Senior Surveys at the institutional level and program level – global
CAAP exam institutional outcomes for general education – feeds the assessment of the outcomes of Montana Tech graduates under consideration of the General Education Committee
Placement Survey feeds curriculum
Research Report Faculty hires
Advisory Boards curriculum
Review of math placement
Resident Hall and Food Service satisfaction guides planning
EVERY TWO YEARS
SSI – Student Satisfaction Inventory – Student and Faculty evaluation of Student Services, quality of instruction and advising within programs
3-5 YEARS+
Alumni surveys
Employer surveys
Institutional Audit
Accreditation exit reports
Program review documents

Each academic program has a mission-based assessment plan and process, which is tied to the mission. The assessment occurs annually. Each program began with a statement of the objectives and outcomes with a subsequent assessment plan. These will be published by every program in the 2005/6 catalog. To simplify the submission process, a standard format was provided. The departments are expected to keep the detailed assessment documents and submit a summary to the Office of the Academic Vice Chancellor. A description of that format follows:

Assessment Report "DATE"
Program
Montana Tech of The University of Montana

MISSION: (Clearly state the mission of the program)
Educational Objectives: (List the education objectives as defined by the program)
Outcomes: (List the measurable outcomes of the graduates of the program)

(Complete the assessment matrix)

Assessment Matrix

OUTCOME	Mission Basis	How Achieved	Level	Assessment Tool, Process	Assessment Goal	Assessment	Action
List program educational outcomes individually	*Briefly list the mission basis that links the outcome of the program to the greater institutions*	*Description of methods in place to achieve the outcome. For example, coursework, internship, curriculum component*	*Level at which the students are assessed, Entry, Mid, or Exit*	*Tools and processes to measure the outcome. For examples, tests, surveys, evaluations.*	*Criteria to measure the outcome against. Specific measurable when possible.*	*Describe whether or not the goal was achieved*	*List actions to be taken in the next year to help achieve a goal*

Narrative: (Provide additional information as needed to further clarify the assessment table. Supportive documentation should be archived in the program office). In years in which the Student Satisfaction Inventory is conducted, the results and action plans for gaps greater than one (1) are also to be included.

Each program completes this assessment each year. They are reviewed at the Deans level and are on file in the department and in the Office of the Vice Chancellor for Academic Affairs. These assessments serve as guiding documents for curriculum changes and budget requests. The outcome statements themselves are evaluated periodically at intervals of approximately 3 years. In years in which the SSI is conducted, each program receives their target audience report. They are required to address a plan for any areas that have a gap of more than one (1) with an action plan.

Many of the campus committees take part in assessment on an ongoing basis. Those committees are:

Advising/Retention Steering Committee
Curriculum Review Committee
Enrollment Management Committee
General Education Review Committee

Student and institutional outcomes are rooted in the mission statement. The outcomes and goals of the institution have clear processes and strategies of how to achieve them. Table 1 indicates the outcomes with their respective process or strategies to achieve them. The processes are grouped by expected impact into Strong, Moderate and Weak categories.

Table 1. Processes and strategies to achieve the expected outcomes of Montana Tech.

Outcomes	Processes/strategies with relative influence on outcomes		
Students will have or be able to:	**Strong**	**Moderate**	**Weak**
Function on teams	Capstone Experience, Specific Courses		Advising, General Education
Relevant work experience	Career Services Office	Specific Courses	
Express oneself in written and oral form	Capstone Experience, Communications Gen Ed	Specific Courses	
Critical thinking skills	Gen Ed	Specific Courses	
Global/multicultural awareness	Humanities and Social Sciences Gen Ed	Student Services Programming	Specific Courses
Appreciation for diversity	Humanities and Social Sciences Gen Ed	Student Services Programming	Specific Course, Advising
Understanding the scientific method	Physical and Life Sciences Gen Ed	Social Science Gen Ed	Specific Courses
Function at the algebraic level	Mathematics Gen Ed	Physical and Life Sciences Gen Ed	
Appreciation for lifelong learning	Physical Life Sciences Humanities and Social Science Gen Ed	Specific Courses	Advising
Prepared for entry-level employment	Specific Courses	Gen Ed	
Montana Tech as an Institution will have or be able to:			
Attract a diverse student body	Student Recruitment, Scholarships, New Degree Programs, International Student Office Activities	Tutoring, Faculty Recruitment, Financial Aid, STEP	Student Services Programming
Retain students to graduation or achievement of their learning goal	Specific Courses, Tutoring, Retention Program, New Degree Programs, Career Services, Counseling	Advising, Financial Aid, STEP, Student Services Programming, Scholarships, Faculty	

		Recruitment	
Grow the enrollment	Add New Degree Programs, Retention Program, Scholarships	Advising, Tutoring, Financial Aid, STEP, Student Services Programming	
Aid students in obtaining career employment	Specific Courses, Career Services	Communications Gen Ed, Retention Program	Advising
Increase research productivity	Faculty Recruitment, Faculty Reward	Student Recruitment, New Degree Programs, Scholarships	
Provide relative service to Montana and beyond	Faculty Reward	Faculty Recruitment	

Each of the processes also has at least one assessment tool. Entry-level assessment tools include:

- ACT/SAT Exam
- COMPASS Exam
- Mathematics Placement Exam

Entry-level assessment results matched with historic institutional data guide the placement of the students in the appropriate courses. These course placements are intended to place the student in an environment where they are appropriately challenged and are likely to be successful at the entry-level into their higher educational journey.

Intermediate-level assessment tools include:

- Student Satisfaction Survey (Noel Levitz) – student services
- Institutional Priorities Survey (Noel Levitz) – student services
- CAAP-ACT Assessment Exam - general education at the junior level

Outcomes assessment tools at the exit point include the application of a variety of tools:

- Student Satisfaction Survey (Noel Levitz) – student services
- Institutional Priorities Survey (Noel Levitz) – student services
- Graduate Placement Survey – degree related placement
- Internship Survey – degree related experience prior to graduation
- Graduate Exit Survey – survey of student's perception of achievement of outcomes
- Alumni Survey – time-related survey of achievement of expected outcomes
- Program Advisory Boards/Surveys – industrial relations
- Capstone Courses – program outcomes
- Writing (W) Courses – general education
- Non-attending Survey - retention
- The Learning Center Survey – tutoring, retention, student services
- Faculty Retention Survey – faculty recruitment and diversity
- Research Productivity Survey – faculty recruitment and reward
- Student Retention Survey – student services, academic programming

The assessment tools are not limited to those listed here. Specialized surveys and database queries are formulated as needed to remain responsive. The tools are used to assess outcomes beyond those identified in the strategic plan. In an effort to provide a high level of personalized set of services, the Student Satisfaction Inventory survey is used to identify areas where improvement can be made. Where the importance and the satisfaction gap are greater than 1, action is initiated by the responsible parties. Although for overarching assessment purposes, Montana Tech performs much better than national averages, and strives to continuously improve. Over time there has been a small slippage. This is being monitored and evaluated. Actions are identified at the department level to work to narrow the gap.

The complete assessment of the Institutional and Student Outcomes can be found in attachment IV. An abbreviated assessment of each of the outcomes follows:

Outcome: Function on Teams
Goal: Score of 3.5/5 on surveys of seniors, alumni and advisory boards
Assessment: Survey data of graduating seniors who attend commencement indicates a 2003 result of 4.36 and 2004 of 4.35. Students function on teams in a variety of courses throughout their curriculum. Assessment at the program-level indicates students are participating in teams and participating in evaluation.
Plan: Determine more appropriate tool to measure the ability of students to function on teams.

Outcome: Relevant Work Experience
Goal: 80% with relevant work experience prior to graduation
Assessment:

YR	Eng	NonEng	All
1999	84%	61%	73%
2000	83%	52%	67%
2001	75%	51%	64%
2002 -- Evaluation in progress			
2003 -- Evaluation in progress			

Plan: Data analysis to determine reason for decline. Re-evaluate the action plan.

Outcome: Express Oneself in Written and Oral Form
Goal: Score of 3.5/5 on surveys of seniors, alumni and advisory boards
Assessment: Surveys of graduating seniors who attended commencement indicate a result of 4.29 and 4.19 in 2003 and 2004 respectively. CAAP/ACT Writing score Jan 2003 of 64.7 with national average 64.5. CAAP/ACT Writing score Jan 2004 of 64.3 with national average 64.5.
Plan: Compass exam instituted for enhancing success of non-traditional students. English placement formulated based on ACT or Compass scores beginning Fall 2002.

Outcome: Critical Thinking Skills
Goal: Score of 3.5/5 on surveys of seniors, alumni and advisory boards, at or above national average on CAAP
Assessment: Survey of graduating seniors who attended commencement indicates 4.29 and 4.33 on the 2003 and 2004 survey, respectively. CAAP results for 2003 indicate a campus score of 63.7 on the Critical Thinking skills section. The national average was 62.4. CAAP results for 2004 indicate a campus score of 63.5 on the Critical Thinking skills section. The national average was 62.1. Montana Tech meets this goal.
Plan: Continue to assess.

Outcome: Global/Multicultural Awareness
Goal: Score of 3.5/5 on surveys of seniors, alumni and advisory boards, at or above national average on CAAP

Assessment: Survey of graduating seniors conducted in 2003 and 2004 of the graduating class who attended commencement indicates results of 3.78/3.76, respectively. CAAP score of Reading Arts/Literature and Social Science scores for the junior class was 16.1 and 17.1, respectively. National averages are 15.7 and 16.5, respectively in 2004.
Plan: Continue to assess.

Outcome: Appreciation for Diversity
Goal: Score of 3.5/5 on surveys of seniors, alumni and advisory boards
Assessment: Survey data from the 2003/2004 graduating seniors who attended commencement indicate 4.04/3.93, respectively.
Plan: Investigate means to better measure the appreciation for diversity.

Outcome: Understanding of the Scientific Method
Goal: Score of 3.5/5 on surveys of seniors, alumni and advisory boards, at or above national average on CAAP
Assessment: Survey data from the 2003/2004 graduating seniors who attended commencement indicate 4.18/4.08, respectively. CAAP score of 62.7 on the Scientific Reasoning in 2004. National averages 61.1. Montana Tech meets this goal.
Plan: Continue to assess.

Outcome: Function at the Algebraic Level
Goal: Score of 3.5/5 on surveys of seniors, alumni and advisory boards, at or above national average on CAAP
Assessment: CAAP/ACT Assessment Exam Mathematics score from Jan 2004 testing of students scored an average of 15 on the Algebra subset of the Math Assessment. The national average is 15.2. Montana Tech does not meet this goal but continues to strive for higher levels in math because of its key relationship to success in the technical fields. Survey data of graduating seniors indicate a response of 4.3/4.25 in 2003/2004, respectively.
Plan: Calculus with Algebra enhancement added to help students whose first exposure to Algebra was at the collegiate level. Advising placement mandatory for math based on Compass or ACT scores. Most majors now require Algebra as the general education math requirement. Continue working on the appropriate placement.

Outcome: Appreciation for Lifelong Learning
Goal: Score of 3.5/5 on surveys of seniors, alumni and advisory boards, at or above the national average on CAAP.
Assessment: Survey of graduating seniors who attended commencement indicates results of 4.3/4.28 in 2003/2004, respectively.
Plan: Continue to monitor. Investigate other means to measure the appreciation for lifelong learning.

Outcome: Prepared for Entry-level Employment
Goal: 80% of those eligible will pass a professional licensure exam
Assessment: 2002, ASRN 87% (24 students); 2003 ASRN 72.5% (40 students)
2003, FE – Fall 50%, Spring 54%
Plan: The engineering programs have completed investigations on the individual subject areas where students aren't doing well. Curriculum alignment is a likely outcome. The formula book that is available when taking the exam has been implemented as a required text in the first of the engineering courses. This should familiarize students with the nomenclature. Goals may need to be individualized for disciplines.

Outcome: Attract a Diverse Student Body
Goal: Student Body composed of 10% International, 8% ethnic minorities, 10% US Nationals/Out-of-State residents and 50% women
Assessment: 2004 student body composition: 3% International, 4% Ethnic Minorities, 11% US Nationals/Out-of-State, 55%Male, 45%female
Plan: The events of September 11, 2001 limited our ability to enroll international students. Difficulties in obtaining the appropriate visas were beyond the control of the campus. The campus has been proactive in insuring all procedures and tracking are in place to satisfy new requirements of INS with the joint purchase of the SEVIS software with UM-M. Other campus activities to recruit a diverse student body include, Advantage scholarship (increase internationals from Canada and US Nationals), Speakers Bureau and Tour of Nations to increase ethnic minorities through communications about the rewarding careers available through Montana Tech.

Outcome: Retain Students to Graduation ***(attainment of learning goals)***
Goal: 6-year graduation rate of 51% and a first-year retention rate of 75% for undergraduate programs
Assessment: 6-year graduation rate of 46.7%(5-year average latest cohort 1998) and a first-year retention rate of 66.7% (5-year average latest cohort 2002). For COT programs, 3-year graduation rate 41.1% (with latest data from 2000) 49.8% first-year retention (5-year average with 2002 first year)
Plan: Instituted the Compass test Fall of 2002 for placement of non-traditional students in Math and Science.
In 2002, a team of 10 attended the Strategic Enrollment Management Conference. Campus action items concerning retention include: English and Math placements, hired full-time remedial Math instructor with Perkins Jan 2003, track scheduling Fall 2003 for engineering, freshmen seminars added to programs without a freshmen course in the major, responsive to the SSS where differs by more than 1. Determine a goal for 2-year programs.

Outcome: Grow the Enrollment
Goal: 3.1% growth rate for the next 6 years beginning Fall 2001 for a total enrollment of 2400 FTE.
Assessment: FY 2001 – 1944 FTE
FY 2002 – 1903 FTE 2.1% decline
FY 2003 – 1984 FTE 4.3% increase
FY 2004 – 2057 FTE 3.7% increase
FY2005 (estimate) – 2000 FTE 2.8% decline
Plan: Continue to fund the marketing effort, team approach to strategic enrollment management, Sustainable Growth Initiative, Advantage Scholarship to recruit out-of-state in low-enrollment programs approved by Board of Regents July 2002, New degree programs: BSN, HCI, BAS/BIT in Helena, CNA statewide, Surgery Tech with Missoula, Secondary Ed Certification with UM-Western, BS IT&D, Stamats Branding Exercises and audits were conducted to help with marketing.

Outcome: Aid Students in obtaining Career Employment
Goal: 90% placement in degree related employment or continuing education within a year of graduation with a total placement of 95%.
Assessment:
North Campus Degree Related%

Year	Placement %
1999	82
2000	82
2001	80
2002	80
2003	82

COT Degree Related% PLACEMENT

Year	Placement %
1999	74
2000	66
2001	70
2002	84
2003	89

Overall % PLACEMENT

Year	Placement %
1999	98
2000	97
2001	97
2002	97
2003	99

Met the 95% overall placement but not the degree related.
Plan: Reinitiated the Career Fair in 2000. Number of visiting companies are up when nationwide the average is down. The Career Fair is continuing to grow. A Health Career Fair was added in 2004 and will continue as the demand dictates.

Outcome: Increase Research Productivity
Goal: Increase research funding to $8 million/year and increase research production to 75% of faculty each year
Assessment: Grant Funding: FY00 - $4,513,443; FY01 - $5,668,192; FY02 - $4,927,696, FY03 - $6,800,000; FY04 - $6,891,162
Researchers on the Faculty: FY00 - 33; FY01- 28; FY02 - 43
The target of $8 million is on target.
Plan: BRIN, Research salary to enhance faculty salaries, UG Research, Major Equipment Grants – Matches are a priority from students Equipment Fees if there is a clear link to undergraduate education, Seed Grants, Returns to generators 50% Interdisciplinary PHD with UM

Outcome: Provide Relevant Service to Montana and Beyond
Goal: Increase the number of K-12 teachers and students served 10%/year. Increase the % of faculty involved in off-campus service to 90% over a period of five years (beginning 2001). Increase the % of students involved in service to 25% over a period of 5 years
Assessment: Data is currently being evaluated.
Plan: Continue with Murdock Foundation grants for science teachers working on research with faculty for 2 summers, Speakers Bureau, Science Fair, school visits, Undergraduate research, Service Learning projects, STEP, Upward Bound, Gear Up. Grant to provide science exploratory resources to K-12 from Butte to Milltown concerning the Clark Fork funded at $600k by NRD.

PROGRESS ON 2000 - GENERAL RECOMMENDATION 4

2000 - General Recommendation 4

The restructuring of the Montana University System has provided Montana Tech with a number of challenges, some of which require additional attention. The impact of the reorganization of the Montana University System is apparent in some areas of the institution and less so in others. Collaboration and cooperation in some program area appear to have had a strengthening effect. Nonetheless, the evaluation team is concerned about the ability of the institution to manage its curriculum, personnel and finances. Work remains to be done in clarifying roles in the administrative structure and lack of understanding about roles of the campuses must be addressed. The team is especially concerned that lack of attention to these issues may impair Montana Tech's ability to meet the standards of the Commission on Colleges regarding governance. It is our hope the institution of The University of Montana will work to resolve these concerns (Standard Six – Governance and Administration; 6.A – Governance System; 6.B – Governing Board; 6C – Leadership and Management).

Progress on General Recommendation 4

The Montana University System implemented restructuring on July 1, 1994. James R. Mingle & Associates reviewed the progress on implementation of the restructuring in October 2000. This review is included in attachment V. Since that time, the Office of Commissioner of Higher Education has documented the progress to date as indicated in Table 2.

Individually, The University of Montana and its affiliated campuses have progressed in collaboration and cooperation in the areas of finance, human resources, student services, academic affairs, and information technology.

Campus management personnel participate in regular conference calls to interact with finance, budgeting and planning. Human Resources have quarterly meetings to discuss personnel and payroll issues facing the campuses. Union negotiations are a combined effort for any collective bargaining unit that is shared. When an expensive Information Technology investment is required, the campuses work together to provide funding and management.

The Commissioner's office coordinates the combined efforts of the MUS campuses through representative committee meetings as frequently as each Board of Regents meetings. Curriculum is clearly under the direction of the faculty in the programs. As new programs are developed, the campus first seeks approval from the Curriculum Review Committee followed by the campus faculty. The new program proposal is then forwarded to the UM Chief Academic Officers. Discussion takes place as to the appropriateness of the program as to alignment with the mission of the campus, UM and MUS and within budgetary considerations. Opportunities for collaboration are discussed. If approved by the UM CAO's, the proposal is forwarded to the Commissioner's office for discussion with the MUS CAO's. If approved at that level, the proposal goes before the Board of Regents. The Chief Academic Officers completed the assessment of the UM strategic plan. For those items that the academic officers are primarily responsible for in the Strategic Directions of the UM, the assessment and identified action items with priorities to work on were completed.

Table 2: RESTRUCTURING REVIEW FOLLOW-UP ACTIONS: June 2002 Update

RESTRUCTURING	
(ALL) Focus on making existing structure behave as if it were a single-Leader organization. (No revisit of "single-Chancellor" issue now)	Ongoing.
~~1. Commissioner will address/resolve the Policy Committee issue. Also, the "TableArrangement" issue.~~	***DONE.***
2. Commissioner will continue to monitor/manage the Chancellor-President-Commissioner relationship.	• Commissioner continues to work with Presidents and Chancellors on issues of communication and collaboration. • ~~Personnel objectives for senior administrators will address restructuring issues.~~ ***DONE***
3. ***(OCHE)*** Evaluate the current funding formula, AND options; within the larger issue of enrollment-driven funding, including behavior incentives for affecting change.	• ~~Policy Committee will address funding formula at its August retreat.~~ ***DONE*** • BoR met 4/24 to evaluate models and options, deferred selecting a consultant (to evaluate current formula and impact of changes made in over the last few years) until they reconvene.
4. ***(Policy Committee)*** Develop a constituency and building strategy. (including a communications strategy).	• ~~Presidents are seeking funding from Foundations for a Friends of the university system organization that would assist in communications.~~ *DONE* • ~~Need to establish clear expectations for campus CEOs and Commissioner about constituency building and reflect those expectations in personnel goals and objectives.~~ ***DONE*** • BoR adopted & funded communication plan –Jan 02
5. ***In discussion with CAO's…(JAS)*** Establish an accountability monitoring mechanism re. Time-to-degree, student advising, retention,	• ~~CAO's agree on policies for advising and degree checks.~~ • Retention model under design for implementation under data warehouse. • ~~Policy Committee Retreat will include~~ accountability reporting on its agenda. ***DONE*** • ~~Proposed working with the Legis-Interim Comm on Education on accountability~~ ***DONE.*** • Fine-tuning Data Warehouse for use in accounta-bility *(IN PROCESS)* • *DBA hired effective 7-1-02*
6. ***In discussion with CAO's…(JAS)*** Revisit and update Phase II direction re. Developmental education.	• Joyce Scott work w CAO's in reconsideration of Phase II direction and policy on remedial and developmental

	education. • Report to BOR in November of 2001. • Exploring solutions with technology and software in cooperation with Billings COT. ***(ACT Ctr open 2/28/02)*** • Plan reports on student progress, numbers involved, methods of remediation and results. • Discuss MUS Virtual U for on-line remediation via PLATO *IN PROCESS*
7. ***(JAS)*** Promote & monitor development of relationships with Tribal Colleges.	• ~~Report on MUS/Tribal College agreements.~~ ***DONE*** • ~~MUS draft Dual Admissions agreement to CAO's and SAO's.~~ ***DONE*** • Add Tribal Colleges to Inventory of academic degrees and programs. ***(Assigned to ESwaney)*** • Update Tribal College GenEd transfer core-Ellen
8. Establish more explicit guidelines to govern the administrative, financial, and academic relationships among the campuses of each university (possible use of Memorandum of Understanding).	• Commissioner work with Policy Committee to recommend location of management & governance responsibilities with report in Jan 02. • Information collected Fall 01 • ~~Commissioner recommends not pursuing MoU between and among the campuses.~~ *DONE* • Recommendation under development
9. Renewed emphasis on collaboration and shared resources.	• ~~Commissioner will direct Presidents and Chancellors to ensure academic leaders at campusl, college, and department levels are held accountable for fostering collab +resource sharing within and among campuses~~ ***DONE.*** • New initiatives Spring 2002 include *-Tech Prep Task Force* *-Career Services Study Group* *-Simultaneous Registration Task Force* *-Financial Aid Customer Service Discussion* *-MUS E-core for general education* • ~~Incorporated into CEOs' perf objectives.~~ ***DONE*** • Banner interface project with Legis Fiscal and Audit divisions and 2 universities *IN PROCESS* • GASB 34-35 implementation
~~10. Use expectations about goals of restructuring to evaluate senior institutional leaders on the campuses.~~	• ~~To be incorporated into goal and objective setting for 2001 2002 ***(DONE).***~~

11. Explore mechanisms for a more "inclusive" approach to seeking advice from affiliate campuses.	• Ongoing; changes in Policy Committee. ***DONE*** • BoR meeting format adds CEO discussion 7/02
~~12. Office of the Commission should play the role of "neutral reviewer" of program proposals.~~	• ~~This is one of the roles the OCHE already plays in consideration of new proposals.~~ *DONE*
13. Gain productivity improvements and cost savings through the fullest possible integration of administrative services and data systems, with special reference to statewide library system.	• Commissioner will establish a library vision committee ***DONE*** to ~~present a vision to the Board by Nov. 2001~~ and submit plan for an integrated library system by July 2002. *DELAYED* • Rod Sundsted will meet with fiscal officers to consider other areas of productivity improvements and cost savings through integration of administrative services. • New efforts Spring 2002 in career service, simultaneous registration, E-core for General Education. • Continued development of data warehouse. • Produced Management Report templates DONE. • Initial MGT Reports – July 02 Gain productivity improvements & cost savings (con't) • Integrated implementation of GASB 34/35 across MUS • Collaboration (MUS campuses and state agencies) on Facility Condition Inventory (FCI) use and enhancement • MUS system wide contract and integration of Unrelated Business Income Tax (UBIT) reporting
14. Increased attention and priority to two-year education.	• ~~Dr. Mingle commended the Regents on singular progress in this area.~~ • The 2-year Education Committee initiatives: ~~*-Continuous registration policy for transfers-* ***done***~~ ~~*-Updated 30-hr GenEd-transfer core*~~ *DONE* ~~*-Degree check policy-* ***done***~~ -Include all Tribal Colleges in 30-hr GenEd transfer core-assigned to ESwaney Sp02 • Current emphasis on Dual Admissions Agreements *(draft Done & Circulated)*, Transfer agreements, course articulation *(In process)*, and 30-hour general ed core *(MUS+CC's complete)*. • ~~Full plan of work for 2-year Committee~~ ***DONE and priorities set.***

	• Formal transfer study underway. • Study designed, BoR and CAO review Jan. 02 • Transfer audit underway, slowed by campus data coding problems in Dec 2001 • New faculty training/orientation for CC & COT via Perkins funding-*ONGOING* • Tech Prep Artic Task Force underway 1-18-02 • Transfer Project 2002 Steering Committee appointed 3-4-02; met 4-19. • Two-Year Task Force planning underway • 04-05 Biennial Budget requests to continue funding 2-year tuition differential
• PRESIDENT & COMMISSIONER SELECTION	
15. ~~*(JAS)* Policy 205.1: reverse wording as noted on hard copy.~~	***DONE***
~~16. *(Dick)* Develop a Commissioner selection Policy:~~	~~• Policy recommendations to Board of Regents for September 2001 meeting~~ *DONE*
Using AGB guidelines (?)	**2000-2** *DONE*
2) Make it clear that this is a BoR decision.	**2000-3** *DONE*
DIVERSITY	
3) Assure implementation of campus diversity reports and publication of annual status report.	~~• STEP I with Jan 01 Diversity Analysis~~ ***DONE.*** ~~• 2nd report in July items on regular cycle~~ ***DONE.*** • ~~Recommend annual reports to Board rather than semi-annually~~ *DONE.* • Expanded diversity report to BoR 7-02 • 04-05 Biennial budget *Indian Education for All* initiative
4) Collect all-campus data on diversity trainings, requirements, and incentives.	~~• Deputy working w Research Office + campuses to standardize data, collection and reporting.~~ *DONE* • AIMA Advisory Comm met 3/5/02-will pursue data collection by task groups • Data collected in July 02 Diversity Report, analysis will lead to action plan
5) Continue collecting data on Tribal College MOU.	***See item 8 above***
~~6) *(Dick)* Assure (via performance evaluations) that senior administrators give high priority to diversity concerns.~~	**DONE**
~~7) *(Dick)* Develop core job descriptions for Chair and Regents.~~	~~• Submit to Board of Regents for September 2001 meeting~~ ***DONE***

PROGRESS ON 2003 - GENERAL RECOMMENDATION 1

2003 - General Recommendation 1

It is clear by all accounts that the restructuring of the Montana University Systems was not something that Montana Tech sought or necessarily welcomed. The nature of the restructuring was perhaps not fully designed before it was implemented with good intention. Consequently, the structure has evolved based on the personalities and unwritten (perhaps even unstated) understandings. Likely, the structure will continue to evolve and changes as administrators retire or change positions. It is recommended that the University document the understandings that drive the relationships between the campuses (Standard 6.A.4) In the long term, the Board of Regents may consider changes in the structure that insures that the President of the University of Montana is the visible and active president of all four campuses and not specifically assigned administratively to the Missoula campus.

During the restructuring, the College of Technology in Butte was merged with Montana Tech and Montana Tech was merged with The University of Montana. Montana Tech has worked diligently to make the restructuring work to the benefit of all involved in a way that will enhance quality while maintaining the unique mission of each campus. The Montana Tech College of Technology became the South Campus of Montana Tech. All services and general education are shared between the campuses. The South Campus houses all 4 years of the Nursing programs and all 4 years of Information and Technology, in addition to the technical education. The General Engineering welding option collaborates with the Metals Fabrication Technology program on the first-year welding curriculum and 2+2 programs have been developed in Business. Having a two-year college as part of Montana Tech allows the students to be better served since they can enter higher education at a level appropriate for their preparation level. In FY04, approximately 700 students were taking course work at both the technology and bachelor's level.

The University of Montana holds an executive retreat each year primarily to work on challenges facing the UM. At that time, further work on UM as a system is also considered. In 2004, the Strategic Directions were reviewed and recommendations for updates were submitted by the working groups.

Montana Tech has little overlap in the curriculum offerings of any of the other UM campuses. Montana Tech offers engineering programs that round out the curriculum offerings of The University of Montana. Examples of collaboration include offerings within the specialties of the campuses on the other affiliated campuses follow. Montana Tech offers the first-year engineering course in Missoula in an effort to help make it possible for students to complete their first two years of engineering in residence in Missoula. Montana Tech offers the last two years of the BAS-Business and the BIT in Helena to the two-year graduates from the UM-Helena. Montana Tech-COT and UM-Missoula COT partner in the offering of Radiology Tech. Courses in the core are offered on-line via Blackboard. The students from both campuses are enrolled in a single on-line class. Surg Tech is offered by UM-Missoula in Butte.

Where appropriate, the campuses collaborate in research efforts. Financial administrative personnel from all campuses of UM meet by conference call weekly. Each of the campus academic officers meets in conjunction with the Board of Regents meetings. They also hold a retreat each year to work on the goals set by the Strategic Directions for the academic year and on issues of key importance to the OCHE.

PROGRESS ON 2003 - GENERAL RECOMMENDATION 2

2003 - General Recommendation 2

Montana Tech has made notable progress in assessment and documented both the results of that assessment and resulting program changes. However, this success was not evident in all programs. There are still some programs where assessment is not documented. It is recommended that the institution identify the "holdouts" and pay careful attention to fully satisfying Standard 2.B in all academic programs.

This general recommendation was addressed in detail in 2000 - General Recommendation 3 (in Part A). Following the 2003 focused visit, the Vice Chancellor for Academic Affairs met with all department heads concerning their progress in the area of assessment. Every program will have their objectives and outcomes published in the catalog by Fall 2005. A template was provided to them to follow for consistency. A standard definition of objectives and outcomes was agreed upon for all programs. Those definitions follow that were adopted from ABET:

Program Educational Objectives: Statements that describe the expected accomplishments of graduates during the first few years after graduation

- Unique to the program and institution
- Consistent in all publications
- Process based on needs of constituencies in which objectives are determined and periodically evaluated
- A curriculum and processes that assure achievement of the objectives
- A system of on-going evaluation that demonstrates achievement and uses results to improve the effectiveness of the program

Program Outcomes: Statements that describe what students are expected to know and are able to do by the time of graduation, the achievement of which indicates that the student is equipped to achieve the Program Educational Objectives (engineering must meet a-k)

- Programs must have an assessment process with documented results
- Evidence that the outcomes are being measured
- Evidence that the results of the assessment process are applied to the further development and improvement of the program

The curriculum change submittal form was changed in 2003 to include a required description of the assessment leading to change. Inadequate assessment can be reason to not approve a change at the Curriculum Review Committee meetings.

PART B

Part B of the report addresses institutional changes since the last full scale visit in 2000. Where the areas were covered in depth in Part A, they are not repeated here and so noted as to where in the report they are located.

STANDARD ONE – INSTITUTIONAL MISSION AND GOALS, PLANNING AND EFFECTIVENESS

Questions listed are covered in Part A under 2000 – General Recommendation 1.

STANDARD TWO – EDUCATIONAL PROGRAM AND ITS EFFECTIVENESS

Changes made to the graduation requirements. Two changes have been made to the requirements for graduation. An upper-division writing requirement and testing for general education have been added.

Students in the bachelor degree programs are required to take the junior level assessment exam of their general education. This is the result of a need to assess the general education. As a result of assessment of the skill set of the graduates, an upper division writing requirement was put in place. The catalog statements leading to these changes follow:

Educational Objectives
The associate and baccalaureate degree programs offered by Montana Tech focus on technical and career-oriented education. Nevertheless, each student's education should include certain common qualities. The general education core curriculum at Montana Tech familiarizes students with the diverse ways of knowing embraced by the Humanities, Mathematics, Physical & Life Sciences, and Social Sciences. In addition to these general areas of knowledge, a Communications requirement ensures that students acquire effective written and oral communication skills.

Expected Outcomes of the General Education Objective:

- Ability to express oneself both in written form and orally
- Proficient critical thinking skills
- Global and multi-cultural awareness
- Appreciation for diversity
- Understanding of scientific methods
- Ability to function adequately at an algebraic level
- An appreciation for lifelong learning

Assessment:
As part of a comprehensive assessment of the General Education program, each student seeking a baccalaureate degree will be required to complete an assessment exam prior to the start of the semester following the term they complete 75 credit hours. The nationally normed exam will be administered on a schedule determined by the Vice Chancellor for Academic Affairs. At the appropriate time, students will be notified regarding date, time, and location of this required examination.

Figure 1 Catalog language concerning the general education assessment exam.

Montana Tech General Education Requirements (GER)
Communications (6 hours)
Humanities (6 hours)
Mathematical Sciences (6 hours)
Physical & Life Sciences (6-7 hours) 1 course w/ lab required.
Social Sciences (6 hours)
As a General Education requirement, in addition to English Composition, all baccalaureate degree-seeking students must successfully complete two designated writing courses (W*) at the 3000 or 4000 level. The 4000 level course should be a capstone course in the student's major. Such courses are indicated in the catalog with a "W" appended to the course number (e.g. PTC 3896W). The writing component of a "W" course generally takes one of two forms:
1. The course requires at least three (3), three to five (3-5)-page papers, and students must write a substantial revision of at least one of these papers;

OR

2. The course requires one major paper of 15 to 20 pages, and students must produce an early draft of this paper for feedback from the instructor, then make subsequent revisions.

The 30-31-credit General Education core is required of all students

Figure 2 Catalog reference to the upper division writing requirement.

New majors, minors or degrees/certificates added at the undergraduate level. The following tables indicate the new majors, minors, certificates or certificate programs added at the undergraduate level. Each new program was approved by the Curriculum Review Committee, the faculty, and the Board of Regents. New Majors have been added in areas in which the campus held an expertise that when combined developed a responsive program. An example of this includes healthcare informatics as a combination of the computer science, communications and health disciplines.

New degree programs	Year	Level	Comments
Information Technology and Design	2001	BS	2+2 with networking technology. Fills the gap in the hardware tech area
Metals Fabrications Technology	2001	AAS	Redesigned degree in welding technology that is more encompassing
Health Care Informatics	2002	AAS/BS	Combination of health, computer science and communications
Civil Engineering Technology	2002	AAS	Evaluation of the engineering technician field indicated civil tech as a growing discipline
Networking Technology	2002	AAS	Moved out to a stand alone degree from business tech.
Nursing BS completion	2003	BS	Demand for higher level training in complex health care environments led to addition beyond associate degree
Radiology Technology	2004	AAS	Demand from local industry
Historic Preservation Technology	2004	AAS	Demand from local industry Butte second largest historic district in US

New program options added to existing majors:

New Options to Existing programs	Year	Level
Options in Management and Entrepreneurship added to Business and Information Technology	2002	BS
Options in Math and Statistics added to Mathematical Science	2001	BS
Options in Geographic Information Systems and Networking Technology added to Computer Technology	2002	AAS
Accounting Option added to Accounting Technology	2002	AAS
Option – Medical Office Specialist in Office Technology	2002	AAS
Engineering Technology and Engineering Technology Option in Petroleum	2002	AAS
Options in Management and Information Technology and Technology and Business Development in Business and Information Technology	2002	BS
Health Science Option in Accounting Technology	2003	AAS
Practical Nursing from AAS to Certificate	2003	Cert

Name changes:

Name changes	Year	Level
Name change from Metallurgical Engineering to Metallurgical and Materials Engineering	2001	BS/MS
Option name change in General Engineering from Control Systems to Electrical Engineering	2003	BS/MS

Minors added where there is a major:

Minor	Year	Level
Geophysics minor	2003	BS
Physics minor	2003	BS
Petroleum Geology minor	2003	BS
Mineral Processing	2002	BS
Extractive Metallurgy	2002	BS

Discontinued majors, minors, or degrees/certificates:

Discontinued	Year	Level
Metallurgical Engineering – Name changed with materials content added	2001	BS
Office Technology - Legal Secretary	2001	AAS
Options in Applied and Pure Mathematics in Mathematical Sciences	2001	BS
Practical Nursing	2003	AAS
Occupational Safety Health – Science and Engineering Option	2003	BS

Significant changes made in existing majors, minors or degrees/certificates. The only significant changes made in a major area were in nursing. In July 1999, the Board of Regents approved Montana Tech of The University of Montana to offer an Associate of Science in Nursing (ASN) degree "bridge program" (bridging the ASN program with an Associate of Applied Science Practical Nurse degree program approved at the same time). Previously the Practical Nurse was offered at the certificate level. The original proposal included a provision for evaluation of the program after three years. The evaluation led to the recognition that the vast majority of students entering Montana Tech to pursue nursing education desire registered nursing education rather than practical nursing education. The evaluation also revealed that these students desire Bachelor of Science in Nursing (BSN) education. At the time, Montana Tech nursing students had to complete two years of practical nursing education, earning an Associate of Applied Science in Practical Nursing (AAS-PN) degree, then pass the national licensure exam for practical nursing in order to be eligible for admission to the ASN degree program. The resulting ASN culminated with 118 earned credits. The changes to Montana Tech's nursing education programs brought them in line with its students' desires by allowing direct access to RN education and offering regional access to a BSN completion program. The SCNA continued as a certificate of completion. The LPN was moved from an AAS to a certificate. The ASN became a direct entry 2-year degree and a BSN completion was added. The Board of Regents is currently drafting policy dealing with transfer among nursing programs. The resulting policy may lead to further changes in these offerings.

Significant changes in the graduate programs. The only changes in the graduate programs at Montana Tech have been the on-line delivery of two programs. Industrial Hygiene and the Masters in Project Management are now offered in their entirety on-line. The requirement for admission to the on-line delivered Industrial Hygiene masters requires that candidates have two years industrial experience. The program continues to offer the on-site Industrial Hygiene masters degree. The Project Engineering Management graduate degree is no longer offered jointly with Montana State University – Bozeman and is delivered solely by Montana Tech and only on-line.

Intended education outcomes, regular assessment, and student achievement expectations. Assessment or outcomes and student achievement have been addressed in General Recommendation 2000-3 in PART A.

STANDARD THREE – STUDENTS

Changes made in admission, grading, student non-academic programs, and student support services. Montana Tech takes a great deal of pride in our student services and strives to provide a high level of service to the students on an individual basis. The services of admissions, business office, registrar and financial aid have been relocated to one building to facilitate use of those services. Students

at the College of Technology are delivered critical services during the rush times at the beginning of the semester on site. The remainder of the year those students seek those services at the North campus.

Changes made to admissions deal primarily with placement at the stage of admission. With the open admission College of Technology, Montana Tech has the ability to provide educational opportunities to nearly every applicant. The students are placed in the appropriate Math and English class based on their standardized test scores or the COMPASS exam. Historic data of previous students' success in these areas is evaluated periodically to ensure that the placements remain appropriate. This placement policy is strictly enforced.

Student support services were strengthened by the addition of Blackboard On-line Learning. Every course on campus has a Blackboard presence. The students are automatically enrolled in the on-line course when they register. A support desk is manned with library hours.

Orientation of new students had been strengthened. The effort to fully connect and engage the students include the offices of learning center, financial aid, admissions, network services, registrar, campus housing, dean of students, recreation, and activities programming. Registration events are held four times throughout the year.

A cohort in the freshmen engineering class has been developed. This eases the registration process and allows more time for mentoring and advising. Students in engineering are placed in Chemistry, English and Math classes as appropriate to their Math placement. The students have a similar schedule with other students in their major. Students of the same major participate in the introductory class in their major.

Students participated in the new campuswide course evaluation form development. The first time the evaluation form was deployed was Fall 2004. The evaluation was developed with input from students, faculty and the administration. The feedback on the form is formative in nature.

An assessment of the student services at the College of Technology took place in the Spring of 2004. The results led to changes in the signage and referral of students. Students requiring services provided only at the North campus are provided a map with the name and contact information of the individual to contact. If at all possible, appointments are made for the student.

Compare the current enrollment figures with those reported in the last institutional self study report. The enrollment of the institution is on an upward trend. The growth in new majors is the predominant reason for this growth. This academic year the enrollment has decreased slightly. This is partly due to the simultaneous delivery of the AAS-ASN and direct ASN in the AY04. The AAS-ASN graduated its last class in AY04. The following graphs are summary. The dramatic increase in AS degrees will likely fall off with the practical nurse at the certification level. The registered nursing program is now a direct entry ASN and no longer requires an AAS for admittance.

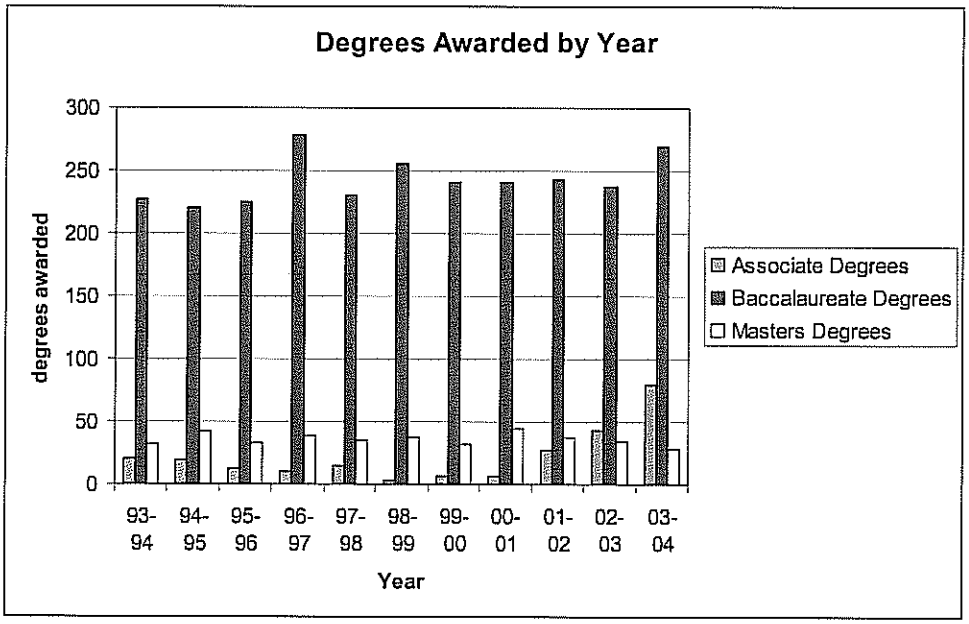

Figure 3 Degrees awarded by year and level

Table 1: Degrees awarded comparison by program 93-99 and 99-2004

Degrees awarded by program									5yr avg 93-98	5 yr avg 99-04
Program Title	**Option**	**Degree Type**	**CIP #**	**99-00**	**00-01**	**01-02**	**02-03**	**03-04**	**Avg**	**Avg**
Associate of Applied Science Nursing		AAS	51.1613				32	0		16
Associate of Arts		AA	30.9999	2	1	1	0	0	5	1
Associate of Science		AS	30.9999	5	6	2	3	4	9	4
Bachelor Applied Science (BAS)	(Total)	BAS		3	5	6	3	7	3	5
	Business		52.1299	2	3	4	3	6	0	4
	Biology		26.0101	1		1	0	1	2	1
	Technical Communication		30.1501	0	2	1	0	0	0	1
Computer Science		BS	11.0701	15	17	12	11	6	26	12
		(m)		5		3	1	3	2	3
General Engineering	(Total)	BS	14.1301	34	42	53	53	44	33	45
	No option			14	5	14	12	3	15	10
	Mechanical Engineering			6	21	22	18	21		18
	Control Systems Engineering			8	12	5	3	0	8	6
	Welding Engineering			6	2	3	5	1	5	3
	Civil Engineering			0	2	9	10	9		6
	Electrical Engineering						5	6		6
	Discontinued options						0	0	5	0
	Multiple Options							4		4

Degrees awarded by program									5yr avg 93-98	5 yr avg 99-04
Program Title	**Option**	**Degree Type**	**CIP #**	**99 00**	**00 01**	**01-02**	**02-03**	**03-04**	**Avg**	**Avg**
	Electrical Engineering						3	1		2
	Civil Engineering						1	1		1
	No option						3	0		2
	Control Systems Engineering			0	1	3	0	0	0	1
Environmental Engineering		BS	14.1401	27	24	14	22	20	55	21
Environmental Engineering		MS	14.1401	7	9	8	2	3	10	6
Geological Engineering	(Total)	BS	14.1501	7	6	6	6	10	6	7
	No Option			4	2	1	2	0	2	2
	Engineering Geology			0	1	3	2	4	0	2
	Hydrogeology			1	3	0	1	3	3	2
	Mining Geology			2		2	1	1	1	2
	Multiple Options							2		2
	Geological Engineering	(m)					2	0		1
	Hydrogeology	(m)		1		0	1	1	1	1
Geophysical Engineering		BS	14.1601	9	3	3	4	1	3	4
Metallurgical Engineering		BS	14.2001	10	9	5	7	5	9	7
Metallurgical & Materials Engineering			14.2001			1	0	1		1
Metallurgical /Min. Proc. Eng.		MS	14.2001	1	5	1	1	4	5	2
Mining Engineering		BS	14.2101	17	19	14	11	6	14	13
Mining Engineering		MS	14.2101	3	2	2	0	3	2	2
Petroleum Engineering		BS	14.2501	24	34	39	23	39	17	32
Petroleum Engineering		MS	14.2501	2	3	2	3	1	3	2
Project Engineering & Mgt		MS	14.3001	4	2	0	7	2		3

Degrees awarded by program									5yr avg 93-98	5 yr avg 99-04
Program Title	**Option**	**Degree Type**	**CIP #**	**99-00**	**00 01**	**01-02**	**02-03**	**03-04**	**Avg**	**Avg**
Software Engineering		BS	14.0903			0	1	1		1
Technical Communication		MS	23.1101	1	3	7	0	4	4	3
Biology		(m)	26.0101	4		0	1	5	2	3
Biological Sciences		BS	26.0101	0	5	9	4	7		5
Mathematical Sciences	(Total)	BS	27.0101	7	4	5		5	5	5
	Applied (prog. Ended)			1	1	0	0	0	3	0
	Pure (prog. Ended)			6	1	0	0	0	3	1
	Mathematical Sciences				2	0	0	0		1
	Math Option					0	3	2		2
	Statistic Option					0	2	0		1
	Multiple Option					5	0	3		3
		(m)		27		32	47	37	18	36
Society & Technology	(Total)	BS	30.1501	18	17	17	22	12	15	17
	Liberal Studies			5	6	10	8	7	10	7
		(m)		2		4	1	3	0	3
	Professional & Technical Communication			11	11	7	14	5	5	10
		(m)					1	6		4
Chemistry	(Total)	BS	40.0501	3	5	3	4	5	6	4
	No Option			2	4	1	3	5		3
	Professional--ACS			1	1	1	0	0		1
	Geology-Geochemistry			0		1	0	0		0
	Environmental Chemistry			0			1	0		0
		(m)		4		1	1	2	6	2

Degrees awarded by program									5yr avg 93-98	5 yr avg 99-04
Program Title	**Option**	**Degree Type**	**CIP #**	**99 00**	**00-01**	**01-02**	**02-03**	**03-04**	**Avg**	**Avg**
Geosciences	(Total)	MS	40.0699	6	7	7	7	6	5	7
	Geological Engineering			1	1	1	1	1	1	1
	Geochemistry			0	1	2	2	0	2	1
	Geology			0	1		1	1	0	1
	Mineral Economics			0			0	0	0	0
	Hydrogeology		0	2			1	0	1	1
	Geophysical Engineering			1	4	4	1	3	1	3
	Hydrogeological Engineering			2			1	1	1	1
Nursing/Registered		AS	51.1601	0	17	24	40	75		31
Nursing		BS	51.2206	0		New		31	0	16
Occupational Safety & Health	(Total)	BS	51.2206	32	21	30	16	22	25	24
	Applied Health Science			12	9	8	6	20	5	11
	Science & Engineering			20	12	22	10	2	21	13
		(m)		1			0	0	1	0
Industrial Hygiene		MS	51.2206	8	9	6	7	3	8	7
Business Administration		(m)	52.0101	9		6	2	6	23	6
Business & Information Technology.		BS	52.1299	35	30	26	43	36	24	34
	Technology & Business Development (TBD)			9	2	3	0	0	12	3
	Management Information Technology (MIT)			13	22	5	5	0	7	9
	Business Information Systems			13	6	5	6	9	12	8
	Entrepreneurship (formerly TBD)					1	2	2		2
	Management (formerly MIT)					10	30	22		21
	Multiple Option					2	0	3		2
Information Tech & D			11.0801			New	3	11		7

Degrees awarded by program								5yr avg 93-98	5 yr avg 99-04
Program Title			99 00	00 01	01-02	02-03	03-04	Avg	Avg
Total Associate of AAS Nursing Awarded						32	0		16
Total Associate Degrees Awarded			7	7	27	43	79	13	33
Total Baccalaureate Degrees Awarded (includes BAS)			241	241	243	238	269	240	246
Total Masters Degrees Awarded			32	44	38	34	28	37	35
Grand Total All Degrees			280	292	308	347	376	289	321
Total Minors Awarded			53	0	46	57	63	34	44

STANDARD FOUR – FACULTY

Changes in policy affecting faculty. Policies that have changed that impact faculty include the Research Salary, Faculty Evaluation timeline and Course evaluation form.

A Research Salary policy was put in place to allow researchers who buy out of teaching requirements to be paid at the CUPA rate for their discipline. The VCAA works with the deans to establish the CUPA category. Once a faculty member begins using the salary in grant-funded projects, they must continue.

The timeline for submittal of annual evaluations was changed to cover a calendar year rather than an academic year. The submittal time is early in the fall so that there is adequate time for the evaluators to complete the analysis.

In an effort to provide more formative feedback concerning instruction, the Faculty Senate worked with student government to adopt a campus form for use in course evaluations. Exceptions to the use of the form must be obtained through the dean and academic vice chancellor.

Characteristics of full-time faculty. As shown in the chart below, the faculty have been stable at Montana Tech. The decrease in instructors and subsequent increase in assistant professors came about from the change in the nursing program from Associate to include Bachelors education. With this, the program faculty were moved from COT faculty to College of Math and Sciences and assigned duties commensurate with an appointment as an assistant professor rather than an instructor. All lab directors with masters degrees were given the opportunity to move to assistant professor ranks if they agreed to pursue and obtain a doctorate at the time of promotion or tenure consideration.

Table 1 Comparison of AY99 and AY04 faculty characteristics.

	AY99							**AY04**						
	Number		**Number of Terminal Degrees**					**Number**		***Number of Terminal Degrees***				
Rank or class	**Full time**	**Part time**	**DR**	**M**	**B**	**Prof Lic**	**Less than B**	**Full Time**	**Part time**	**DR**	**M**	**B**	**Prof Lic**	**Less than B**
Professor	44		41	3				*46*		*46*	*2*			
Associate Professor	32		19	13				*18*		*13*	*0*			
Assistant Professor	5		3	2				*27*		*12*	*15*			
Research Faculty	28*		5	18				*4*		*4*				
Instructor	35	37		24	11	8	1	*18*	*43*		*10*	*8*		
Visiting Professor	1	1						*5*		*1*	*3*	*1*		

*This number includes the Bureau of Mines and Geology professional staff. They are now reported as contract professionals and not included in the research faculty numbers for AY04.

The following table compares the AY2000 salaries with the AY2004 actual salaries. The increase in the number of assistant professors was explained earlier by the shift in nursing faculty. In the majority of instances the salaries have increased.

Table 2Comparison of Faculty salaries and FTE (source CHE 105)

		AY2000		AY2004		
Category		FTE	AY Salary	FTE	AY Salary	Percentage Change since AY00
Professor	Lowest		40281		49291	22%
	Average		56174		60717	8%
	Highest		71868		78745	10%
	FTE	41.96		46.33		10%
Associate Professor	Lowest		30059		41470	38%
	Average		46773		52516	12%
	Highest		68501		74777	9%
	FTE	30.28		19.86		-34%
Assistant Professor	Lowest		31000		30000	-3%
	Average		40570		45549	12%
	Highest		48000		55000	15%
	FTE	6.17		26.61		331%
Instructor	Lowest		23789		26959	13%
	Average		29214		33527	15%
	Highest		36224		40547	12%
	FTE	12.28		10.85		-12%
Wtd avg		90.69	48323	103.65	52405	8%
Post Retirement		1.0	663412	0.66	64847	-2%
Lecturer/other		5.87	46614	9.07	49587	6%
COT faculty		19	37007	12.25	40342	9%

Average percent salary raises given to continuing faculty members for the past six (6) years beginning with FY99 are: 1.5%, 3.0%, 2.0%, 4.0%, 4.0%, 0.0%, 0.5%, with 3.4% and 4/0% anticipated in FY06 and FY07, respectively.

STANDARD FIVE – LIBRARY AND INFORMATION RESOURCES

How have the library/learning resources and laboratories been maintained to keep pace with the growth of instruction or with significant program changes such as computer science or health technologies? Since 1999, Montana Tech Library has kept pace with the growth of instruction and significant program changes by maintaining and expanding its technological resources and its outreach resources and services.

Technological Resources

Technological resources include an on-line book ordering system, a new integrated library system called Voyager, and a new interlibrary loan system called ILLiad. Faculty can place book orders on-line through a form on the library's website. With the Voyager system launched in 2001, faculty can track their orders in the library catalog, and are notified through the same system when new books arrive. Turn-around time for delivery of journal articles has dramatically decreased from days or weeks to sometimes same-day-delivery with the ILLiad electronic document delivery system. The library works with a consortium of libraries using Voyager and ILLiad to further access the collections of the affiliated libraries. In order to support growth in the expanded health care programs, access was increased to the nursing database, CINAHL and the psychology database, PsycInfo. Also added was a Communications database for the Professional & Technical Communication Department. The library now subscribes to more than *20,000* electronic journals. A proxy server was set up in Fall 2004 that enables remote access to all electronic library resources to all students, 24/7.

Outreach Resources/Services

A reference librarian serves on the Montana Tech Computer Committee, and the library received six new research computers in December 2003. The library is now on the replacement list to have the research and lab computers updated regularly. Information Literacy sessions have increased by 50% since 2002. The library director serves on the Curriculum Review Committee to anticipate resource needs as new programs are proposed. The director also chairs the University Library Committee and receives faculty input for continuing improvement of library resources. The reference librarian acts as faculty liaison for collection development and information literacy opportunities. The library director is currently developing a one-credit, on-line information literacy class using Blackboard. An Information Certification program for literacy skills was developed and implemented in 2003 through a collaborative effort between a geological engineering professor and a librarian.

STANDARD SIX – GOVERNANCE AND ADMINISTRATION

Explain significant changes in the governing board, leadership and management of the institution. Structurally, the management of the institution has remained the same with two exceptions. The Vice Chancellor for Student and Fiscal Affairs position has been eliminated and a new position of Vice Chancellor for Institutional Advancement and Development, who also serves as the President of the Montana Tech Foundation, was created. The duties of the Vice Chancellor for Student Affairs have been redistributed to the Chancellor predominantly and to the directors.

STANDARD SEVEN – FINANCE

Significant changes made in the financial structure and condition of the institution (budgetary increases and/or decreases, operating surpluses or deficits, plans for the future)? The state of Montana, like the majority of states, has suffered a downturn in funds available to expend on higher education. The state of Montana no longer funds the increase in FTE nor does it take back from the institutions when enrollment targets are not met. Transfers from The University of Montana-Missoula to

Montana Tech were made in two forms. One transfer was in the form of sustainable grants subject to an RFP and the other as a general transfer from the state allocation. A comparison of the revenues and expenditures of all funds in FY00 in comparison to FY04 follows in the tables. The revenues and expenditures are up but only because of the increases in tuition. The state appropriation in 2005 is less than it was in 2000.

Table 3 Summary of revenues all funds (source CHE's)

FUND TYPE	Actual FY2000	%	Actual FY2004	%	Budget FY05
Tuition and Fees	$4,796,775	13.58	$8,010,411	21.30	$9,153,663
Investment Earnings		0.00	43,970	0.12	692,774
Appropriation Fund Transfer	9,239,916	26.16	8,967,311	23.85	9,205,626
Other Transfers	31,750	0.09	1,216,259	3.23	825,757
Misc.	43,983	0.12	127,663	0.34	129,975
Auxiliary	2,512,597	7.11	3,479,621	9.25	3,527,540
Restricted	7,149,536	20.24	9,970,527	26.52	10,314,911
Student Loans	112,726	0.32	89,526	0.24	78,517
Plant Funds	8,254,146	23.37	1,727,521	4.59	1,876,663
Designated	3,178,695	9.00	3,966,882	10.55	3,505,541
Total Revenues	**35,320,124**	**100**	**37,599,691**	**100**	**39,310,967**

Table 4 Summary of expenditures all funds (source CHExx1).

Fund Type	Actual FY2000	%	Actual FY2004	%	% Change	Budget FY05
Current Unrestricted	$17,020,807	44.5	$20,330,563	51.74	19%	$21,850,461
Current Restricted	7,273,180	19.0	9,784,119	24.90	35%	10,415,436
Current Designated	2,893,053	7.6	3,569,675	9.08	23%	4,507,350
Auxiliary Enterprises	2,582,534	6.8	3,275,763	8.34	27%	3,368,383
Subtotal Current Funds	29,769,574	77.9	39,960,120	94.06	34%	40,141,630
Loan Funds	19,011	0.0	34,947	0.09	84%	42,000
Plant Funds						
Unexpended Plant	499,921	1.2	878,040	2.00	76%	784,500
Repair and Replacement	66,423	0.2	190,414	0.48	187%	1,252,651
Retirements and Indebtedness	7,902,091	20.7	1,326,306	3.37	-83%	1,167,983
Subtotal Plant Funds	8,418,435	22.1	2,303,760	5.85	-73%	3,205,134
TOTAL ALL FUNDS	**38,207,020**	**100.0**	**39,298,827**	**100.00**	**3%**	**43,388,764**

As a further point of interest, the expenditures by program are included in Table 5. This shows that expenditures by program have been a steady percentage for the past 5 years and are expected to remain with these allocations. Over 60% of the budget is expended on academics. There has been an increase in expenditures for scholarships and fellowships. This is necessary as a recruitment tool and to help offset the increasing tuition and fees.

Table 5 Summary of current unrestricted expenditures by program (CHE 101)

Program	Actual FY2000	%	Actual FY2004	%	% Change	Budget FY05
Instruction	$8,388,228	56.21	$10,072,170	54.84	20.08	$10,778,157
Research	48,102	0.32	55,562	0.30	15.51	58,275
Academic Support	1,251,145	8.38	1,514,634	8.25	21.06	1,465,509
Student Services	1,540,239	10.32	1,768,588	9.63	14.83	1,812,115
Institutional Support	924,296	6.19	1,231,807	6.71	33.27	1,263,899
Operation and Maintenance of Plant	2,112,486	14.16	2,685,118	14.62	27.11	2,744,638
Scholarships and Fellowships	658,862	4.41	1,037,735	5.65	57.50	1,261,702
Total Expenditures by Program	**14,923,358**	**100.00**	**18,365,614**	**100.00**	**23.07**	**19,384,295**

STANDARD EIGHT – PHYSICAL FACILITIES

What changes have been made in the physical plant (new buildings, demolition/remodeling or old ones)? Since 2000, approximately $140,000 has been expended in classroom and laboratory improvements to enhance instruction with the use of technology. At least two classrooms in every building and all of the computer labs have multi-media capabilities. This typically includes a computer, VCR and data projector. New furniture was also purchased in a number of classrooms.

In FY03, the heating plant steam distribution system was upgraded at a cost of $675,000. In FY04, a $635,000 electrical loop upgrade was completed to replace the primary power distribution system on campus. Two unfinished rooms in the Chemistry and Biology Building were finished and furnished for use by the National Center for Healthcare Informatics and the Healthcare Informatics program. One of the rooms is a Grid Node Access point for state-of-the-art delivery and connectivity throughout the world. The other room serves as office space for the program. In FY04, $300,000 was committed to replace the windows and paint the Petroleum Building. The Mineral Research Center has been remodeled to house the RAVE Creativity Forge for enhanced automated manufacturing. A student design workshop was developed in one of the high bays at the Mineral Research Center to facilitate student workspace in preparation for national design team competition for the concrete canoe, human powered vehicle, steel bridge, and environmental design.

A new 70,000 sq. ft. MBMG/Petroleum Building is in the planning stage. Early indications from the Legislature indicate that $9MM may become available in the Long Range Building Bonding Program.

STANDARD NINE – INSTITUTIONAL INTEGRITY

How does the institution ensure high ethical standards in its treatment of students, faculty, and staff? Montana Tech strives to maintain high ethical standards in all aspects of its management and

operations. This includes all of its interactions with students, faculty, staff, and constituents. By the very nature of the institution, many members of the faulty are registered (licensed) professionals and subscribe to explicit and legally binding codes of ethical professional conduct.

The policies governing conduct of faculty, staff, and students are found in the respective handbooks. The policies of most particular focus in Standard Nine include:

Code of Ethics, Standard of Conduct for State Employees, BOR Policy Section 700
Hiring Procedures, Faculty Staff Handbook
Conflict of Interest and Financial Disclosure, Faculty Staff Handbook
Invention and Patent Policy, BOR Policy 401.2
Scientific and Scholarly Activity Misconduct Policy, Faculty Staff Handbook
Faculty Code of Conduct, Faculty Staff Handbook
Student Code of Conduct, Student Handbook
College Community Expectations Program
Academic Dishonesty, Student Handbook, Catalog
Student Right to Privacy, Student Handbook
Montana Tech Minority and Gender Equity Achievement Plan,
Affirmative Action/EEO and American with Disabilities Act
Software/Internet/Network Use Policy, BOR Policy 1901.1

A number of committees work to assist the campus in adherence of policy. They include:

Academic Freedom and Tenure Committee
Academic Standards Committee
Chancellor's Cabinet
Student Disciplinary Appeals Committee

The administration practices an open-door policy. Students, faculty and staff are always welcome to bring their concerns forward.

Attachments

Attachment I:	Strategic Plan
Attachment II:	Assessment of the Strategic Plan, 2002
Attachment III:	Economic Development Profile
Attachment IV:	Assessment of the Institutional and Student Outcomes
Attachment V:	Mingle Restructuring Report

ATTACHMENT I:
Strategic Plan – Building the Future While Honoring Our Heritage

BUILDING THE FUTURE WHILE HONORING OUR HERITAGE
A Five-Year Plan for Entering the Twenty-first Century

INTRODUCTION

This plan was formulated during 1999-2000 as a guide for the future of Montana Tech of The University of Montana. The planning committee that developed the plan consisted of 22 members from students, faculty, staff and community leaders. The plan was shared with the Montana Tech community throughout its development. This plan is intended as a guide to the institution, it is intended to be a flexible and living document in that it must change as conditions change, and it is intended as a guide to the strategic thinking of the faculty, staff and administration of the institution.

The current planning committee will continue with appropriate changes in membership as necessary. The responsibility of the planning committee is to monitor the assessment of the progress towards achieving the goals set by this plan. Based on this assessment, the planning committee will recommend modifications to keep this plan current. To accomplish this assessment, the planning committee will meet at least three times each year or more frequently if deemed necessary by the chair. The Chancellor's Cabinet will discuss these assessments.

The major theme of this plan is to set goals that will keep Montana Tech at the forefront of those disciplines that currently serve the citizens of Montana, the nation, and the world while developing the areas that will serve the future. Computing and telecommunications lie at the interface of the past and the future while the basic sciences, art, humanities and social sciences are the heart of educated people. Ever present in the minds of Montana Tech citizens must be the thought of what has made this institution great, what is great about it today and what will keep it great in the future. Every graduate of Montana Tech must gain the ability to communicate and think analytically while achieving the skills necessary to obtain initial employment, contribute to their profession, and become active in their citizenship.

Achievement of the five goals requires every citizen and supporter of Montana Tech to stretch the limits of their abilities. These are lofty goals that move Montana Tech forward in the first years of the twenty-first century.

Mission Statement

Montana Tech of The University of Montana is a comprehensive university emphasizing science and engineering with a national and international reputation for excellence. Programs range from occupational through graduate levels in engineering and selected other fields. The campus is dedicated to assisting students attain success in their academic, professional, and individual life goals. A personalized set of support services is available to all students. Students study in a learning environment that stresses practical, hands-on experiences and internships. Montana Tech programs are designed to produce graduates who are well-rounded, competent, responsible, and ethical professionals.

Montana Tech of The University of Montana serves as a cultural and events center for the local community and Southwest Montana. It promotes science literacy, generally, specifically encourages careers in engineering and science, and offers an expanding array of external studies and outreach programs. The economic development of the immediate service area and the state of Montana is an important part of the outreach activities.

Research is incorporated into the curriculum as an essential learning technique. Research and other scholarly activities of the faculty, staff, and students contribute to innovation and problem solving;

provide practical solutions for business and industry; and add to the general body of knowledge. The Montana Bureau of Mines and Geology, along with the academic departments and several other focused research centers, play critical roles in support of resource-based industries in Montana and around the world.

Vision Statement

Maintaining a close association with the resource-based industries and alumni allows Montana Tech to blend high quality formal instruction with hands-on learning, team projects, research, relevant work experience and co-curricular activities. As a result, graduates are firmly grounded in general education and well prepared to pursue their chosen careers after graduation. While honoring our heritage, we will constantly evolve our programs to meet the needs of the future.

1.0 GOAL I – SUSTAIN AND ENHANCE THE QUALITY OF ALL PROGRAMS

Develop and identify actions that contribute directly to sustaining and enhancing the quality of the programs at Montana Tech.

1.1 Objective 1

Continue to develop and maintain a world-class faculty and staff.

1.1.1 Action Plan

	Action Plan Tasks:	Estimated Cost:
1.	Increase the number of faculty and staff with terminal degrees.	No estimate available.
2.	Increase the research and scholarly activity of faculty and staff.	Provide increase release time for research. (See Goal IV)
3.	Improve the diversity of faculty and staff.	No funding required.
4.	Provide for a minimum of $1000 per individual per year for professional development.	(99 faculty (North Campus) + 16 faculty (South Campus)) * $1,000 = $115,000
5.	Provide a minimum of $5,000 per new faculty member and professional staff member.	Assume 3 new replacement faculty per year and 2 new/replacement staff per year.
6.	Increase the number of GTAs and RAs in support of faculty instructional and research activities.	Currently we have funded 32 GTAs at a cost of $6,800 per ($217,600 total). These GTAs are split amongst 12 departments. Add 2-4 GTAs per year to reach a target based on needs in the form of number of graduate student applications.
7.	Increase the number of internships in both the academic and the student and administrative affairs areas to support professional productivity and program development.	No estimate available.
8.	Successfully implement a gender equity and minority achievement plan.	No estimate available.
9.	Continue to develop an effective goal development, planning, and evaluation system.	This will require resources for evaluation tools and their administration. No funding is required for goal development and planning.
10.	Support the Instructional Improvement Committee.	$5,000 per year.
11.	Reward excellence in teaching and professional work.	Increased monetary awards as available.

1.1.2 Assessment

1. Track, at the vice chancellor level, the number of faculty and staff with terminal degrees.
2. Track, at the dean level, the number of publications, professional presentations, successful research grants, number of grant proposals submitted, and number of graduate students.
3. Tabulate diversity statistics through the offices of the vice chancellors.
4. Track, at the departmental level, the amount of money spent on professional development.
5. Track, at the vice chancellor level, the amount of startup funds used for new faculty.
6. Track, at the vice chancellor level, the number of GTAs and RAs.
7. Track, at the departmental level, the number of internships in the listed areas.
8. Monitor gender equity and minority achievement through the student affairs office.
9. Evaluation, at the vice chancellor level, of campus review programs done by external accreditation groups and internal assessment.
10. Track, at the vice chancellor level, the amount of funding allocated to the Instructional Improvement Committee.
11. Track the amounts of reward monies or awards allocated for the listed areas by the vice chancellor's office.

1.2 Objective 2

Assure Montana Tech's role in the development and application of the technologies of the twenty-first century and the core programs that support them.

1.2.1 Action Plan

Action Plan Tasks:	Estimated Cost:
1. Annually review the developments in new technologies such as nanotechnology, biotechnology, and other developing technologies to determine what, if any, new programs should be based on these technologies.	
2. Continue to produce graduates that will develop and apply the emerging technologies.	
3. The Chancellor will appoint a sub-committee to monitor new developments in science, engineering and technology. Through e-mail communications and other means, the sub-committee will keep the campus apprised of new developments and will by June 1 of each year recommend to the planning committee any actions necessary to keep Montana Tech's programs current with new technologies.	
4. Target faculty positions to support items 1-3.	

1.2.2 Assessment

The report prepared by the sub-committee will be the assessment of this objective.

1.3 Objective 3

Assure the integrity of Montana Tech's heritage in the extractive industries.

1.3.1 Action Plan

	Action Plan Tasks:	Estimated Cost:
1.	Review and improve the effectiveness of departmental advisory groups.	No funding required.
2.	Continue to produce graduates attractive to the extractive industries.	No estimate available.
3.	Develop long-range (5 yr., 10 yr.) plans that detail goals and objectives for maintaining and enhancing the programs in the extractive industries area.	No funding required.
4.	Increase and improve solicitation of support from companies in the extractive industries.	This will entail increased funding for travel.

1.3.2 Assessment

1. Track the number of scholarships made available from industry, the number of endowments created and maintained, the number of internships available in the departments of mining, metallurgical and materials, petroleum, geological, and geophysical engineering.
2. Monitor the number of graduates employed by extractive and related industries at the departmental level.
3. Review by the Chancellor and vice chancellor of long range plans compiled by the deans from constituent departments.
4. Monitor contributions provided by industry for scholarships, departmental resources, and unrestricted funds at the dean level.

1.4 Objective 4

Maintain and enhance the quality of resources available to the instructional programs.

1.4.1 Action Plan

	Action Plan Tasks:	Estimated Cost:
1.	The library will continue to work with faculty and staff to insure NWASC accreditation standards are met and that resources needed to meet the objective are quantified.	No estimate available.
2.	The Computer and Telecommunications Committees in concert with Network Services will develop a plan for continuous upgrading of the IT infrastructure on campus and quantify the resources needed to meet the objective.	Estimate will be provided by the Computer and Telecommunications Committees in concert with Network Services.
3.	The vice chancellors, deans and department heads will continue to develop a plan for continuous upgrading, replacement of existing and development of new academic laboratories, and quantify the resources needed to meet the objective.	Estimates will be determined by deans and department heads.

1.4.2 Assessment

1. Evaluation will be done by external accreditation programs and the library director and staff.
2. The same committees that develop plans will also monitor the effectiveness of their plans.
3. Evaluation of laboratories will be done by external accreditation programs, departments, and student satisfaction surveys.

1.5 Objective 5

Improve Faculty and Staff salaries to100% of the CUPA rank/discipline averages of peer institutions.

1.5.1 Action Plan

	Action Plan Tasks:	Estimated Cost:
1.	Achieve 90% CUPA in 5 years.	$963,000 total ($192,600/year)
2.	Achieve 100% CUPA in the long term.	$1,576 million
3.	Increased funding will be sought in the following areas: a. Lobbying the legislature for increased funding. b. Increasing tuition. c. Increasing savings through efficiencies (e.g., larger class sizes) d. Increasing support derived from the foundation. e. Increasing enrollment growth.	

1.5.2 Assessment

1. ***Assessment will consist of tracking the overall salary averages and the effectiveness of gaining increased funding from the sources listed above. Assessment and tracking will be done at the higher administrative levels.***

1.6 Objective 6

Increase opportunities for learning any time, any place.

1.6.1 Action Plan

	Action Plan Tasks:	Estimated Cost:
1.	Student services will inventory services available to off-campus students.	Additional staffing.
2.	Offer more classes of interest to the general public.	Additional faculty.
3.	Increase the number of WWW classes offered.	Increased release time and monetary resources.
4.	Increase enrollment in continuing education courses.	Programs are self-funded.

1.6.2 Assessment

1. Student services will assess needs of off-campus students.
2. Adding new classes or changing classes will be determined by the VCAA/R and deans (with department heads).
3. Increasing the number of WWW classes will be driven by the faculty and departments.
4. Track the enrollment in continuing education courses.

1.7 Objective 7

Expand outcome-based assessments of students.

1.7.1 Action Plan

	Action Plan Tasks:	Estimated Cost:
1.	Associate Degree students: At least a 90% pass rate will be achieved by those students who complete their programs and take a national or state proficiency exam.	No estimate available.
2.	Bachelors Degree students: a. After 2 years of coursework, at least 80% will have achieved a passing score on a general education achievement test. b. Prior to graduation, at least 80% will have relevant work experience - this includes approved internships, cooperative jobs, and work experience in jobs supportive of their major. A pass rate at least equal to the national average will be achieved by those students who complete their degrees and take a national proficiency exam, including the Engineer in Training Exam.	No estimate available.
3.	Masters Degree students: Increase the number of MS students that make presentations at professional meetings and submit papers for publication.	No estimate available.

1.7.2 Assessment

1. The appropriate departments will monitor pass rates for proficiency examinations.
2. The appropriate departments and colleges will monitor pass rates for proficiency examinations.
3. The number of presentations at professional meetings and papers submitted for publication will be monitored by the appropriate departments.

2.0 GOAL II – SUSTAIN AND ENHANCE RESEARCH AND SCHOLARLY ACTIVITIES

2.1 Objective 1

Provide faculty and staff with the infrastructure and incentives to engage in competitive research and scholarly activity at the national level.

2.1.1 Action Plan

1. Reduce barriers to faculty participation in research.
   a. Research loads may be limited for faculty who are significantly active in research, scholarly activity or supervision of graduate students.
   b. New faculty developing research programs will have their course load reduced by one course per semester for a period of two years.
2. Provide incentives to new faculty and MBMG research staff to start a productive research program.
   a. Provide two months' summer salary for new hires for a period of two years for the purpose of developing a research program.
   b. Provide funds to the Director of the MBMG to allow MBMG staff time to write proposals and prepare professional papers and articles on completed work. Presently, many MBMG are on soft money and there is no source of funds to pay for preparation of new proposals.
   c. Provide a minimum of $10,000 per new faculty or MBMG research staff for research start-up costs.
3. Develop a process to identify key technologies of the new century and evaluate the opportunities for new research directions.
   a. Each Department or research unit will develop a five-year research plan showing research opportunities and required research investments.
4. Develop a process to equitably invest collected IDCs to enhance the research efforts of academic programs.
5. Establish the Natural Resource Research Center with emphasis on developing socially and environmentally acceptable methods of producing natural resources.

Action Plan Tasks:	Estimated Cost:
1. Increase research and scholarly activities by 5% per year.	$388,000

2.1.2 Assessment

1. The Research Office will yearly prepare a report showing the volume of research funding at Montana Tech. If the action plans are successful, the amount of funded research will grow. Tabulating the growth of scholarly activities is more difficult. It is routinely tabulated only when there is an ABET or NWAS accreditation visit. It is hereby suggested that the dean of each school or college and the Director of the MBMG report the amount of scholarship activity each year. This could include publications, presentations, society membership and participation, books, and attendance and participation at professional meetings.
2. The deans and department heads will monitor the numbers of graduate students and participants in undergraduate research.

2.2 Objective 2

Provide Montana Tech students with opportunities to engage in research at both the undergraduate and graduate level.

2.2.1 Action Plan

Action Plan Tasks:	Estimated Cost:
1. Continue to offer research opportunities to undergraduates through the Undergraduate Research Program. a. Provide $10,000 annually. b. Continue to obtain funding from NSF and NASA to support program. c. Initiate corporate sponsorship program.	Annual Cost $340,000
2. Continue to recruit well-qualified graduate students. a. Admissions Office will develop a cost-effective graduate student recruitment plan with input from departments and the Graduate School. b. Increase the average funding available to graduate students from the current $3,000/student to $6,000/student over a five-year period.	
3. Increase the number of graduate students to 130 in three years. Increase participation in undergraduate research to 50 students in three years.	

2.2.2 Assessment

1. Undergraduate Research Committee will prepare annual report of program participation, federal, state, and private support; and suggestions for improving vitality and size of program. The Graduate School will prepare an annual report describing and analyzing the level and form of all financial support received by each Montana Tech graduate student.
2. Admissions office will prepare an annual report describing and analyzing the effectiveness of the previous year's recruiting campaign.

3.0 GOAL III - ECONOMIC DEVELOPMENT AND WORK FORCE TRAINING IN MONTANA

3.1 Objective 1

Support Business and Industry Development

1. Enhance the effectiveness of Montana Tech's ongoing support for Montana businesses and industries, and identify opportunities to support new and expanding companies.
2. Provide a central focus at Montana Tech to support regional economic development efforts.

3.1.1 Action plan

Action Plan Tasks:	Estimated Cost:
1. Create an Office of Economic Development at Montana Tech.	Year 1 1. $2,400 Part-time Director (one class release time in spring) 2. $5,000 Operational Budget **Year 2** 1. $24,300 Part-time Director (summer plus two class release times in fall and spring) 2. $10,000 Operational Budget **Administrative Support** 1. FTE .20 $4,500 or 2. FTE .50 $12,605
2. Provide two-year start-up funding for a director and part-time secretary.	
3. Survey the current needs of the business community for assistance in business development and workforce development.	
4. Work collaboratively with local organizations to develop programs to meet basic business development needs.	
5. Work with collaborating business to seek federal start-up funding with special emphasis on the SBIR Phase 0, I and II programs.	
6. Continue to operate a business and industry Service and Learning Center.	

3.1.2 Assessment

1. Survey the current level of Montana Tech activity in each of the areas described above to provide a meaningful baseline for comparisons.
2. The Director of the Office of Economic Development will develop a set of goals and objectives, performance indicators and an assessment plan.
3. The Chancellor shall establish an external advisory committee to provide input to the Director and to help with the annual assessment of the effectiveness of the Office of Economic Development.

3.2 Objective 2

Expand Continuing Education and Workforce Training Programs.

Related to education and providing services to the population of Southwest Montana:
1. Examine and clarify an appropriate model for a continuing education program.
2. Develop a self-sustaining funding mechanism for the continuing education model.

3.2.1 Action plan

Action Plan Tasks:	Estimated Cost:
1. Expand outreach programs, such as apprenticeships, certification programs, technological workshops and seminars, and K-12 educational activities.	No additional funding required
2. Continue to work with corporate training programs such as CISCO and General Motors.	No additional funding required
3. Expand training opportunities in careers that will keep graduates and the workforce current in Southwest Montana by: a. Offering training for home-based career opportunities such as MEDQUIST. b. Expanding existing licensing and certification programs to higher degree levels. For example, LPN to RN and CISCO to BS level.	No additional funding required
4. Improve class availability and times for the working community.	No estimate available

3.2.2 Assessment

1. Annual measurement activities include:
   a. Number of new programs
   b. Enrollment of existing programs
2. Individual measurement activities include:
   a. Economic impact on individuals receiving training
   b. Number of students who find employment in Montana
3. The VCAA/R and deans (with department heads) will determine the feasibility of adding/changing class availabilities and times.

4.0 GOAL IV – MARKETING

Establish an effective, capable, and integrated marketing enterprise for the campus.

4.1 Objective 1

Expand Montana Tech's image, and the awareness of Montana Tech in regional, national, and international markets.

4.1.1 Action Plan

The Office of College Relations and Marketing (OCRM) shall develop measurable objectives into its marketing plan that seeks to achieve the following:

Action Plan Tasks:	Estimated Cost:
1. Increased funding for marketing that allows Montana Tech to achieve its enrollment objectives of a 2% increase in FTE in each of the next five years.	Seek additional $200,000/year for five years to enhance funding for marketing to stabilize and grow enrollment.[1]
2. Expanded marketing regions with emphasis both nationally and internationally.	See above
3. Improved recruiting efficiencies in Montana Tech's current markets by utilizing faculty, student, and alumni volunteers more effectively.	See above
4. Targeted public relations efforts to maximize effects on the College's image and the awareness of Montana Tech.	See above
5. Increased presence of Montana Tech in ranking and WEB-based publications.	See above.
6. Utilization of WEB-based technology on the Montana Tech campus.	Fund at current levels.

[1] A draw down schedule in which the Foundation reduces its commitment during the five-year period and the College increases its commitment should be considered.

4.1.2 Assessment

1. On a quarterly basis, the OCRM shall assess progress toward the goals and objectives of the marketing plan. Specifically, the number of recruits and admits will be compared on a weekly basis with statistics from the previous three years.
2. Results of these assessments shall be used to direct future efforts of the recruitment program and to define budget expenditures.

4.2 Objective 2

Strengthen alumni relations.

4.2.1 Action Plan

The OCRM's alumni relations program will seek to achieve this objective by:

Action Plan Objective:	Estimated Cost:
1. Providing service to alumni including the offering of courses, alumni events, bookstore merchandise, and alumni recognition awards.	Fund at current levels.
2. Continuing to provide information to alumni through the development and distribution quarterly issues of M-News.	Increase funding by $10,000 annually to produce M-News on a quarterly basis.
3. Increasing the involvement of faculty and staff, administration, Montana Tech Alumni Association members, and Digger Athletic Association members in alumni programming activities.	Fund at current levels.
4. Improving campus communication to alumni through Montana Tech's WEB page.	Fund at current levels.
5. Assessing the needs and desires of alumni through the development and distribution of a questionnaire.	Minimal cost can be managed through M-News and the Tech WEB site.

4.2.2 Assessment

1. On May 15, the OCRM shall examine the elements of the Alumni Relations program according to the established goals. The Alumni Relations program will begin to track the number of alumni participants in programming activities and will randomly send questionnaires to alumni seeking feedback on programming activities.
2. Modifications to the FY02 alumni relations program will be made based upon this assessment.

4.3 Objective 3

Improve development and institutional advancement efforts.

4.3.1 Action Plan

Montana Tech and the Montana Tech Foundation will develop an institutional advancement plan that:

Action Plan Tasks:	Estimated Cost:
1. Involves as many volunteers (faculty, administration, and alumni) as possible in the fund-raising efforts of the college.	$2,500 committed annually to support department development travel activities.
2. Articulates that fund-raising is the responsibility of everyone at Montana Tech, not just the Montana Tech Foundation.	No funding required.
3. Develops and implements a fund-raising training and coordination program for faculty, staff, and the administration of Montana Tech	$2,000 annually for five years committed to faculty and staff fund-raising training.
4. Establishes regular coordination meetings between the Montana Tech Foundation development staff, the Montana Tech Digger Athletic Association, the Montana Tech Alumni Association, academic departments, and any other competing fund-rising concerns.	No funding required.
5. Develops an ambassador program for Montana Tech.	$2,000 annually for five years committed to the development of materials to be used in the Ambassador program.
6. Increases the College's fund-raising outreach activities to corporations, foundations, alumni, individuals and any other constituencies with a focus on long-term relationship building.	$20,000 annually to support Chancellor and/or administrative development activities in unison with MTF. Additionally, support is needed to fund a full-time position to research and write grants to foundations and corporations … est. $50,000 (including benefits)

4.3.2 Assessment

1. The President of the Montana Tech Foundation and the Chancellor of Montana Tech shall meet on a regular basis to assess the progress of the elements of the action plan. Specific measurements will include progress against fundraising goals, quantity and success of outreach activities, and progress toward programming objectives.
2. Modifications to the plan will be based upon progress against the goals and objectives of the plan.

4.4 Objective 4

Improve the campus service mission and recognition through enhanced technical and educational outreach.

4.4.1 Action Plan

The Vice Chancellor for Academic Affairs and Research, in conjunction with the Directors of Educational and Technical Outreach, shall draft a document that:

Action Plan Tasks:	Estimated Cost:
1. Examines and analyzes how Montana Tech currently serves external constituencies.	No funding required.
2. Addresses areas where outreach activities need to be emphasized.	No funding required.
3. Continues to place emphasis on current programs while seeking to develop new and successful outreach programs such as an expanded Jump Start program, Upward Bound, STEP, Americorp, and a High School Faculty/Counselors Summer Program.	Additional .5 FTE in the Technical Outreach program (est. $16,000) to seek grants and provide oversight. Additional $3,000 for operations including travel. Total funding requirement is $19,000. Position would need to be self-supporting after first year.
4. Develops targeted technical outreach programs that impact institutional needs (i.e., specific enrollment targets).	See item 3 above.
5. Addresses the incorporation of multimedia instruction and multimedia classrooms into the curriculums of Montana Tech.	No funding required.
6. Addresses the technology needs of the campus to deliver high quality instruction with an emphasis on increasing enrollment.	No funding required.

4.4.2 Assessment

1. On a quarterly basis, the VCAA/R and the Director of Technical Outreach shall examine the action plan and its progress toward the established goals and objectives of the plan. Assessment measures will include the number of high schools teachers and counselors to be reached through these programs. Expansion measures for Jump Start will be established.
2. Modifications to the plan shall be based upon progress made against the goals and objectives of the plan.

5.0 GOAL V - IMPROVE FUNDING MODEL

5.1 Objective 1

Seek increased base funding from the Montana Legislature.

5.1.1 Action Plan

The Chancellor and Vice Chancellors shall develop a communication and management plan for the 2001 Legislative Session by October 31, 2000 and implement the following action plan tasks:

	Action Plan Tasks:	Estimated Cost:
1.	Development of relationships between Montana Tech officials and Montana Legislators.	No funding required.
2.	Integration with Montana University System lobbying efforts.	No funding required.
3.	Involvement of Montana Tech alumni and friends in important legislative actions.	Travel pool available for Montana Tech faculty/staff to travel to Helena - $2,000 available for travel and per diem.
4.	Exploration of alternate funding models/methods for Montana Tech and the Montana University System.	No funding required.
5.	Development of opportunities (events/receptions) for Montana Tech administration, faculty, and staff to interact with the Montana Legislators.	$2,000 required for events/receptions throughout the Legislative Session including invitations, food, and beverages.

5.1.2 Assessment

1. A meeting shall be held one month prior to the start of the Legislative Session to begin implementing the plan and assessing progress against the goals of the plan.
2. Weekly meetings shall be held during the Legislative Session to assess progress and to assess the needs of the campus and involvement of alumni and friends.

A meeting shall be held at the conclusion of the Legislative Session to assess the successes/limitations of the plan.

5.2 Objective 2

To work with The University of Montana and the Montana University System to improve the funding model in ways that more effectively fund programs throughout the MUS and especially at Montana Tech.

5.2.1 *Action Plan/Objective*

- Become enfranchised in the executive policy decision-making process of The University of Montana-Missoula and the MUS.
- Restructure the funding model so that it is more sensitive to the needs of the small campuses.
- Provide for more realistic and flexible funding vis-a-vis enrollments.
- Establish mechanisms in funding that recognize the smaller, high-cost programs of Montana Tech and provide more equitable funding of general fund dollars for Tech.
- Eliminate current counter productive and negative consequences of funding model penalties.
- Improve funding for Montana Tech research programs in fundamental and systematic ways in a more equitable manner with the two university campuses.

ATTACHMENT II
Assessment of the Strategic Plan, 2002
Montana Tech of the University of Montana

MONTANA TECH OF THE UNIVERISTY OF MONTANA
Assessment 2002

Mission Statement

Montana Tech of The University of Montana is a comprehensive university emphasizing science and engineering with a national and international reputation for excellence. Programs range from occupational through graduate levels in engineering and selected other fields. The campus is dedicated to assisting students attain success in their academic, professional, and individual life goals. A personalized set of support services is available to all students. Students study in a learning environment that stresses practical, hands-on experiences and internships. Montana Tech programs are designed to produce graduates who are well rounded, competent, responsible, and ethical professionals.

Montana Tech of The University of Montana serves as a cultural and events center for the local community and Southwest Montana. It promotes science literacy, generally, specifically encourages careers in engineering and science, and offers an expanding array of external studies and outreach programs. The economic development of the immediate service area and the State of Montana is an important part of the outreach activities.

Research is incorporated into the curriculum as an essential learning technique. Research and other scholarly activities of the faculty, staff, and students contribute to innovation and problem solving; provide practical solutions for business and industry; and add to the general body of knowledge. The Montana Bureau of Mines and Geology, along with the academic departments and several other focused research centers, play critical roles in support of resource-based industries in Montana and around the world.

Vision Statement

Maintaining a close association with the resource-based industries and alumni allows Montana Tech to blend high quality formal instruction with hands-on learning, team projects, research, relevant work experience and co-curricular activities. As a result, graduates are firmly grounded in general education and well prepared to pursue their chosen careers after graduation. While honoring our heritage, we will constantly evolve our programs to meet the needs of the future.

Montana Tech of The University of Montana *Building the Future while Honoring our Heritage*			
GOAL I – Sustain and Enhance the Quality of all Programs ***Develop and identify actions that contribute directly to sustaining and enhancing the quality of all programs at Montana Tech***			
Objective	Action Plan	Assessment	Action
1. Continue to develop and maintain a world-class faculty and staff.	Increase the number of faculty and staff with terminal degrees	1 faculty member recently completed his doctorate. 3 Associate Professors and long time faculty members are currently enrolled in doctorate programs. 2 staff members are currently pursuing advanced degrees	All new hires in faculty positions require a terminal degree for access to tenure and promotion through contractual obligation
	Increase the research and scholarly activity of faculty and staff	Assessment indicates that campus has more researchers obtaining smaller grants. Research salary policy implemented. Return to generators at 50% of IDC's FY00 - $5.5 MM 45 Researchers FY01 - $5.3MM 38 Researchers FY02 - $5.4 MM 53 Researchers (FY01 participation may be low due to underreporting by MBMG)	Continue to monitor
	Improve the diversity of faculty and staff	In process	All searches are national searches facilitated through Higher Ed jobs.com
	Provide for a minimum of $1,000 per individual per year for professional development	In process	

	Provide for a minimum of $5,000 per new faculty member and professional staff member	Each new faculty and professional staff receives a new computer and new office furniture if needed. Some of the new hires also receive a small professional development allocation. (CS new hires and programs with foundation account funds)	
	Increase the number of GTA's and RA's in support of faculty instructional and research activities	Assessment indicates that GTA funding is at the low end nationwide. As engineering masters numbers increase nationwide. This puts MTECH at a competitive disadvantage	Raised the value to $8000 per GTA but decreased the number from 32 to 29 to be within the national range. Monitor impact
	Increase the number of internships in both the academic and student and administrative affairs areas to support professional productivity and program development	FY02 307 Academic Interns FY02 151 Student Affairs Interns FY01 FY01	
	Successfully implement a gender equity and minority achievement plan	Plan completed	Status of implementation and updates
	Continue to develop an effective goal development, planning and evaluation system	Faculty self-assessment annually for non-tenured below the rank of full professor. MAP for staff Variable for professional staff. Deans and department head evaluations.	Implement a professional staff self-assessment
	Support the Instructional Improvement Committee	$5,000 allocation per year using Foundation support	Goal met.
	Reward excellence in teaching and professional work.	Rose and Anna Busch-one from each college and one part time for faculty. Employee Achievement awards once annually (not monetary). MAP awards by application	Goal met but continue to investigate other ways to reward excellence.

Montana Tech of The University of Montana *Building the Future while Honoring our Heritage*			
GOAL I – Sustain and Enhance the Quality of all Programs ***Develop and identify actions that contribute directly to sustaining and enhancing the quality of all programs at Montana Tech***			
Objective	Action Plan	Assessment	Action
2. Assure Montana Tech's role in the development and application of the technologies of the 21st century and the core programs that support them.	Annually review the developments in new technologies to determine what, if any, new programs should be based on these technologies	Subcommittee created, meeting held April 12, 2002 NSF Invited speakers (2) in 2002	Emerging trends meetings with departments Invited Speaker program Funding mechanism development
	Continue to produce graduates that will develop and apply the emerging technologies	New program offerings include HCI, IT&D. Welding Engineering planning to include manufacturing and robotics Bioengineering relationship with Neurosurgeons.	Grants submitted to support early development and new staffing
	The Chancellor will appoint a sub-committee to monitor new developments in science, engineering, and technology. Through email communications and other means the sub-committee will keep the campus apprised of new developments and will by June 1 of each year recommend to the planning committee any actions necessary to keep Montana Tech's programs current with new technologies.	Sub-committee created, meeting held April 12, 2002 NSF Invited speakers (2) in 2002 Sub-committee working with participating departments to develop long-range plan and and research agendas.	Emerging trends meetings with departments Invited Speaker program Funding mechanism development
	Target faculty positions to support the action plan.	Faculty needs identified through departments and programming and presented to Deans Council	Funding of new positions creatively through grants

Montana Tech of The University of Montana *Building the Future while Honoring our Heritage*			
GOAL I – Sustain and Enhance the Quality of all Programs ***Develop and identify actions that contribute directly to sustaining and enhancing the quality of all programs at Montana Tech***			
Objective	Action Plan	Assessment	Action
3. Assure the integrity of Montana Tech's heritage in the extractive industries.	Review and improve the effectiveness of departmental advisory groups		
	Continue to produce graduates attractive to the extractive industries		
	Develop long-range (5, 10 yr) plans that details goals and objectives for maintaining and enhancing the programs in the extractive industries		
	Increase and improve solicitation of support from companies in the extractive industries.		

Montana Tech of The University of Montana *Building the Future while Honoring our Heritage*			
GOAL I – Sustain and Enhance the Quality of all Programs ***Develop and identify actions that contribute directly to sustaining and enhancing the quality of all programs at Montana Tech***			
Objective	Action Plan	Assessment	Action
4. Maintain and enhance the quality of resources available to the instructional programs.	The library will continue to work with faculty and staff to insure accreditation standards are met and that resources needed to meet the objective are quantified.	According to recent accreditation visits, the library currently meets the accreditation needs. With the addition of the new nursing program, long-range planning is needed. The library director has met with the dean of CMS, Nursing director and the nursing faculty to assess long-term needs to meet accreditation of the new nursing program.	Goal met. The library will obtain, retain and annually review accreditation standards for all programs. The library will quantify resources by developing long-range budgets needed to meet accreditation standards for existing and new programs. These budgets will be presented to the Montana Tech Budget Committee during the library's annual spring budget review. Long-range planning.
	The Computer and Telecommunications committees in concert with Network Services will develop a plan for continuous upgrading of the IT infrastructure on campus and quantify the resources needed to meet the objective.	The Director of Network Services has completed a plan with a budget.	Met, no action required. Continue to remain up to date with technological changes that might influence the plan.

	The vice chancellors, deans, dept heads will continue to develop a plan for continuous upgrading, replacement of existing and development of new academic laboratories and quantify the resources needed to meet the objective.	Requests for new equipment are allocated fee monies each year. Plans are in place to merge the soils labs on campus to one central soil mechanics lab. Several requests for new equipment have been funded and requested through NSF and via grant agencies. Current proposals are in place to upgrade the metals fabrication and welding at the COT. New hire in General Engineering will be responsible for the planning for upgrading of the labs.	Met. Continue to monitor

Montana Tech of The University of Montana *Building the Future while Honoring our Heritage* ***GOAL I – Sustain and Enhance the Quality of all Programs*** ***Develop and identify actions that contribute directly to sustaining and enhancing the quality of all programs at Montana Tech***			
Objective	Action Plan	Assessment	Action
5. Improve faculty and staff salaries to 100% of the CUPA rank/discipline averages of peer institutions	Achieve 90% of CUPA in 5 years	**North Campus Faculty % CUPA 8/2002** **RANK/ School** **ASST** **ASSOC** **FULL** **Wtd Avg** **SME** 0.87 0.88 0.77 0.82 **HSSIT** 0.91 0.74 0.70 0.72 **CMS** 0.84 0.86 0.74 0.82 **Weighted AVG** 0.86 0.84 0.75 0.80 Staff Salaries are currently maintained at 80% of CUPA	New hire goal is to begin at 90% of CUPA unless it causes a large cost in inverted salaries.
	Achieve 100% of CUPA in the long term	The cost to achieve 100% of CUPA is currently estimated at $1.5MM for faculty. Cost to achieve 100% CUPA is currently estimated at $250,000	In light of budget restraints, the way to meet this goal is to seek professorships.

	Increased funding will be sought in the following areas: • Lobbying the Legislature for increased funding • Increased tuition • Increasing savings though efficiencies • Increase support derived from the Foundation • Increasing enrollment growth	Plan for increased funding to lead to economic development by the MUS. Accountability reporting to the Legislature. Tuition increased 13% this year and next with an additional surcharge caused by budget cuts. Efficiencies: Hired a VCIAD to lead the increased support derived from the Foundation. Marketing for increasing enrollment growth and degree areas in response to industry Strengthening the Institution grant application Strategic growth initiative application	Continue in process

Montana Tech of The University of Montana ***Building the Future while Honoring our Heritage***			
GOAL I – Sustain and Enhance the Quality of all Programs ***Develop and identify actions that contribute directly to sustaining and enhancing the quality of all programs at Montana Tech***			
Objective	Action Plan	Assessment	Action
6. Increase opportunities for learning anytime anyplace	Student services will inventory services available to off-campus students		
	Offer more classes of interest to general public	Courses offered to the general public include: Butte History Biology of Winemaking Recreational Courses (i.e., Fly Fishing) Bioethics, First Aid, Hazwoper Training, Personal Financial Management	
	Increase the number of WWW classes offered.	New IH Masters degree on-line. HCI courses all developed for on-line. MTECH has 91 credits available on-line and 18 under development.	
	Increase enrollment in continuing education courses.		

Montana Tech of The University of Montana *Building the Future while Honoring our Heritage*			
GOAL I – Sustain and Enhance the Quality of all Programs ***Develop and identify actions that contribute directly to sustaining and enhancing the quality of all programs at Montana Tech***			
Objective	Action Plan	Assessment	Action
7. Expand outcome-based assessment of students.	Associate degree students: At least 90% pass rate will be achieved by those students who complete their program and take a national or state proficiency exam	LPN FY01 – 92% ASN FY01 – 100%	Goal met. Continue to monitor with changes in program.
	Bachelors Degree Students: • After 2 years of coursework, at least 80% will have achieved a passing score on a general education achievement test. • Prior to graduation, at least 80% will have relevant work experience – this includes approved internships, cooperative jobs, and work experience in jobs supportive of their major. • A pass rate at least equal to national average will be achieved by those students who complete their degrees and take a national proficiency exam including the Fundamentals of Engineering Exam.	CAAP Testing began in 2001 with a sample. **2002 results:** **AREA -MTECH – NATNL** WRITING – 63.8 – 64.5 MATH – 59.4 – 58.5 ALGEBRA – 15.5 – 15.1 READING –62 – 62.9 – 58.5 CR THNKNG – 62.4 – 62.4 SCNCE REASON – 62–61.1 Montana Tech is at or above the national average in every test with the exception of reading.	Continue to monitor
		YR – Eng – NonEng – Overall 1999 – 84% - 61% - 73% 2000 – 83% - 52% - 67% 2001 – 75% - 51% - 64%	Data analysis to determine reason for decline. Re-evaluate the action plan.
		2001 MTECH -------NATL FE – 01 Spring 58% -- FE – 01 Fall 53% --	This is in conflict with the outcomes discussion and recommendations from the appropriate assessment groups should take place.

	Increase the number of MS students that make presentations at professional meetings and submit papers for publication		Publish a paper option

Montana Tech of The University of Montana *Building the Future while Honoring our Heritage* *GOAL II – Sustain and Enhance Research and Scholarly Activities*			
Objective	Action Plan	Assessment	Action
1. Provide faculty and staff with the infrastructure and incentives to engage in competitive research and scholarly activity at the national level	Reduce barriers to faculty participation in research • Teaching loads may be limited for faculty who are significantly active in research, scholarly activity or supervision of graduate students. • New faculty developing research programs will have their course load reduced by one course per semester for a period of two years.	A teaching load reduction of 3 credits per semester is available to faculty actively engaged in research and scholarly work New faculty have had their coursework reduced further than the standard for their first year only	Work to continue the reduction for new faculty beyond year 1 to include year 2. Budget restrictions may prohibit.
	Provide incentives to new faculty and MBMG research staff to start a productive research program • Provide two months of summer salary for new hires for a period of two years for the purpose of developing a research program • Provide funds to the Director of the MBMG to allow MBMG staff time to write proposals and prepare professional papers and articles on completed work. • Provide a minimum of $10,000 per new faculty or MBMG research faculty for research start up costs.	Summer salary dollars are available through corporate designated gifts only in Petroleum Engineering (Schlumberger) The IDC budget includes $30,000 for the development of proposals. No monies are currently available solely to the MBMG Director for preparation of professional papers or articles on completed work outside of the original funding source. MBMG research faculty are provided the same opportunity to compete for the faculty Seed Grants. An amount of $5,000 competitively awarded in the first 2 years as a new hire.	Work with the foundation to expand the number of programs with access to summer research salaries for new hires.

	Develop a process to identify key technologies of the new century and evaluate the opportunities for new research directions. Each department or research unit will develop a 5-year research plan showing research opportunities for new research directions.	See Goal I Objective 2 for process. Sub-committee is meeting with all participating departments to prepare report on future directions.	Plans need to be developed.
	Develop a process to equitably invest collected IDC's to enhance the research efforts of academic programs	Currently at 50% return to generators. Those IDC's are retuned to the department head and PI's for allocation via the departmental plan.	Update program IDC reinvestment plan. Continue the set aside of $30,000 for potential growth initiatives.
	Establish the Natural Resource Research Center with emphasis on developing socially and environmentally acceptable methods of producing natural resources.	Earmark proposal into the FY2004 Federal Initiative program.	Investigate the possibility of Natural Resource Center including Petroleum.

Montana Tech of The University of Montana ***Building the Future while Honoring our Heritage*** *GOAL II – Sustain and Enhance Research and Scholarly Activities*			
Objective	Action Plan	Assessment	Action
2. Provide Montana Tech students with opportunities to engage in research at both the undergraduate and graduate level.	Continue to offer research opportunities to undergraduates through the Undergraduate Research Program • Provide $10,000 annually • Continue to obtain funding from NSF and NASA to support program • Initiate corporate sponsorship program • Increase participation in Undergraduate research to 50 students in 3 years	Undergraduate research participants up 100% from FY02. FY02 – 25 FY03 – 50 Proposal into NIOSH to fund undergraduate research. Program has become extremely successful. Fifty students now participate, a 100% increase from 2001. In addition student participation at national meetings has increased six fold this year from last year.	• Continue to seek funding from alternative sources. Due to the successful fund raising campaign, campus support was reduced to $4,000 in FY2002 and may be eliminated in FY2003. • NSF support was increased to $70,000 in FY2002. Additional funding is being sought from NIH, NIOSH and NSF in 2003 to support 60 students. • Advertising brochures are in preparation for a 2003 industrial sponsorship campaign. Growth of program has caused expansion and restructuring of URP committee to six members with equal representation from each college. Notable is the increasing participation of non-science and engineering undergraduates.

	Continue to recruit well-qualified graduate students • Admissions Office will develop a cost effective graduate student recruitment plan with input from the departments and the Graduate School • Increase the number of graduate students to 130 in 3 years.	***No action has been taken on the recruitment planning.*** Graduate Students Fall 98 – 101 Fall 99 – 95 Fall 00 – 89 Fall 01 – 81 Fall 02 – 96 Quality of incoming graduate students remained good with class average undergraduate GPA of 3.2 and GRE scores in the 1550 range • Graduate enrollment remains stagnate at 100 students. Notable is the trend away from in-state, on-campus students (55% of the total in FY2002) and the growth of on-line students (now 18% of the graduate population). • Undergraduate participation in research goal met. Undergraduate research participants up 100% from FY02. FY02 – 25 FY03 – 50 FY04 – 44 FY05 – 56	We need to decide the relationship between UG and GR recruitment (from information processing through budgetary support). Develop a small joint committee with input from all GR departments to discuss UG/GR recruitment issues with a goal this year of developing a set of recommendations for integration of UG and GR recruitment and marketing. We made a major upgrade to our WEB page which appears to be having an impact fro the distance learners. We have not applied any resources to marketing our conventional graduate programs for three years now and the results reflect this decision. The campus needs to decide what, if any, recruiting program it wishes to pursue or abandon the goal of growth.

Montana Tech of The University of Montana *Building the Future while Honoring our Heritage* *GOAL III – Economic Development and Workforce Training in Montana*			
Objective	Action Plan	Assessment	Action
1. Support business and industry development through enhancing the effectiveness of our ongoing support for Montana businesses and industries and identify opportunities to support new and expanding companies. Provide a central focus at Montana Tech to support regional economic development efforts.	• Create an Office of Economic Development at Montana Tech	Created Fall 2003	Continue operating
	• Provide two-year start-up funding for a director and part-time secretary	Funded through Federal Earmark for two years beginning FY03	Additional funding requested for $500,000 for an additional two years of program support
	• Survey the current needs of the business community for assistance in business development and workforce development	Has not been started	In conjunction with local development agencies: ▪ Send survey to business community ▪ Ask for information from local development agencies ▪ Hold "town meetings" or "roundtables" with business to determine needs
	• Work collaboratively with local organizations to develop programs to meet basic business and development needs	Working with SBDC (Small Business Development Center) to co-sponsor seminars/symposiums/ roundtables for local businesses	▪ Publicize the workshops to local businesses in conjunction with the SBDC ▪ Provide additional workshops on various topics of interest to local business

	• Work collaboratively with local business to see federal start-up funding with special emphasis on the SBIR Phase 0, I and II programs	Promote SBIR submission deadlines and topics to University community through email.	▪ Continue emails to University community ▪ Provide information to local business community regarding topics and submission dates using direct mailings, website, and email
	• Continue to operate a business and industry service and learning center	Ongoing as needed	Need to obtain funding to be able to continue to operate the center

Montana Tech of The University of Montana ***Building the Future while Honoring our Heritage*** ***GOAL III – Economic Development and Workforce Training in Montana***			
Objective	Action Plan	Assessment	Action
2. Expand continuing education and workforce training programs related to education and providing services to the population of SW MT. Examine and clarify an appropriate model for a continuing education model Develop a self-sustaining funding mechanism for the continuing education model.	• Expand outreach programs, such as apprenticeships, certification programs, technological workshops and seminars and K-12 educational activities	Trained 85 industrial tech ed H.S. instructors from MT, Wyoming in all levels of CAD PPL & Northwestern Energy CAD workshop Host Toyota Teaching conferences Certify Iron workers Trained Butte H.S. instructors in Quickbooks	Attend statewide meetings and remain active on local committees work closely with the EDRC to remain in contact with SW MT needs
	• Continue to work with corporate training programs such as CISCO and General Motors	Gen Motors on hold due to lack of dealer density in the area	
	• Expand training opportunities in careers that will keep graduates and the workforce current in SW Montana by offering home based career opportunities such as MEDQUIST and expanding existing licensing and certification programs to higher degree levels (e.g., LPN to RN, CISCO to BS).	Worked closely with St. James to offer Surg Tech (with UM-M), BSN, HCI Cisco certification at Level 8. Seeking alternate CAD to AutoCAD for alignment with state needs. ASN to BSN	Proactively work with industry

	• Improve class availability and times for the working community	See advertisements for class availability at noon, on-line and evenings. Continue to draw people in industry fro classes – GIS & CAAD evening offerings Instructor training in CISCO Pioneer Technical, Golden Sunlight, Lhuvex Page Weiner, CTA Training CAD	Continue to assess.

Montana Tech of The University of Montana *Building the Future while Honoring our Heritage*			
GOAL IV – Marketing *Establish an effective, capable, and integrated marketing enterprise for the campus*			
Objective	Action Plan	Assessment	Action
1. Expand Montana Tech's image, and the awareness of Montana Tech in regional, national and international markets.	• Increased funding for marketing that allows Montana Tech to achieve enrollment objectives of a 2% increase in FTE in each of the next five years.	Met initial enrollment goals - increased inquiries, applicants, and enrolled students.	Need to sustain funding commitment to marketing.
	• Expanded marketing regions with emphasis for nationally and internationally.	Goal met ... expanded territory and marketing efforts regionally, nationally, and internationally (Canada).	Need to sustain commitment to new markets.
	• Improved recruiting efficiencies in Montana Tech's current markets by utilizing faculty, student and alumni volunteers more effectively.	Goal met ... have put new programs in place to involve other constituencies in marketing.	Need to increase number and levels of involvement of faculty, student and alumni volunteers.
	• Targeted public relations efforts to maximize effects on the College's image and the awareness of Montana Tech.	Goal met ... have a comprehensive advertising strategy that ties advertising to marketing brochures and new WEB site.	Need to strengthen brand awareness in all markets.
	• Increased presence of Montana Tech in ranking and WEB based publications.	Goal partially met - have continued to focus on completing institutional surveys – some decisions are out of Tech hands (i.e., Carnegie classification).	Sustain current level of effort.
	• Utilization of WEB based technology on the Montana Tech campus.	Goal met ... have a new WEB site with on-going development activities.	Seek to fund a WEB Master for Montana Tech.

Montana Tech of The University of Montana *Building the Future while Honoring our Heritage*			
GOAL IV – Marketing *Establish an effective, capable, and integrated marketing enterprise for the campus*			
Objective	Action Plan	Assessment	Action
2. Strengthen alumni relations	• Providing service to alumni including the offering of courses, alumni events, bookstore merchandise and alumni recognition awards	Goal partially met - continue to host alumni events nationally. Need to develop infrastructure to allow alumni to purchase on-line from bookstore. Have conducted limited marketing of course offerings to alumni (M-News).	Develop mechanisms to permit on-line credit card processing (bookstore). Market MPEM degree to alumni.
	• Continuing to provide information to alumni through the development and distribution quarterly of M-News	Goal Met - moved to three issues per year due to budget constraints.	Continue to produce three issues of M-News annually
	• Increasing the involvement of faculty and staff, administration, Montana Tech Alumni Association members and Digger Athletic Association members in alumni programming activities	Goal met - regular meetings conducted to involve other organizations in event planning.	Need to develop a counsel that meets on a monthly basis to discuss events and programming.
	• Improving campus communication to alumni through Montana Tech's WEB page	Goal not met - have not dedicated resources to this goal	Develop a comprehensive alumni WEB site.
	• Assessing the needs and desires of alumni through the development and distribution of a questionnaire	Goal not met	Need to develop assessment tool and disseminate to alumni.

Montana Tech of The University of Montana *Building the Future while Honoring our Heritage*			
GOAL IV – Marketing ***Establish an effective, capable, and integrated marketing enterprise for the campus***			
Objective	Action Plan	Assessment	Action
3. Improve development and institutional advancement efforts	• Involve as many volunteers as possible in the fund-raising efforts of the college	Deans – CASE Training Department calling at Call Center	
	• Articulate that fund-raising is the responsibility of everyone at Montana Tech	VCIAD meet with the colleges and faculty	
	• Develop and implement a fund-raising training and coordination program for faculty, staff and administration of Montana Tech	VCIAD CASE training for all Deans completed in FY03	
	• Establishes regular coordination meetings between the Foundation development staff, Digger Athletic Association, Alumni Association, academic departments, and any other competing fund-raising concerns		
	• Develop an ambassador program for Montana Tech		
	• Increase the college's fund-raising outreach activities to corporations, foundations, alumni, individuals, and other constituencies with a focus on long-term relationship building		

Montana Tech of The University of Montana *Building the Future while Honoring our Heritage*			
GOAL IV – Marketing *Establish an effective, capable, and integrated marketing enterprise for the campus*			
Objective	Action Plan	Assessment	Action
4. Improve the campus service mission and recognition through enhanced technical and educational outreach.	• Develop a document that examines and analyzes how Montana Tech currently serves its external constituencies; address where outreach is needed.	In process.	Complete by May 03.
	• Continuing to place emphasis on current programs while seeking to develop new outreach programs.	Jump Start programs offered when requested.	Deliver CAN statewide.
	• Develop targeted outreach programs that impact institutional needs.	Upward Bound continues to prepare students.	Submit a second grant to grow outreach of program.
	• Address the incorporation of multi-media classrooms and instruction into curriculums.	Workshops, help desk for use of media. Continue to upgrade classrooms.	Met…continue to monitor. Plan new lab in Mill Building.
	• Address the technology needs of campus to deliver high-quality instruction with an emphasis on increasing enrollment.	Continued investment in Blackboad and portal.	Continue.

Montana Tech of The University of Montana *Building the Future while Honoring our Heritage* *GOAL V – Improve Funding Model*			
Objective	Action Plan	Assessment	Action
1. Seek increased base funding from the Montana Legislature	• Development of relationships between Montana Tech officials and Montana legislators	Periodically meet with local delegation in both formal and informal settings.	
	• Integration with Montana University System lobbying efforts	Bill Johnston	
	• Involvement of Montana Tech alumni and friends in important legislative actions		
	• Exploration of alternative funding models/methods for Montana Tech and the Montana University System	Maggie Peterson serving on the OCHE allocation model sub-committee. Submitted the Dept of Education Sustainability Grant in 02 (not funded)	Continued active participation on committees involving the MUS and funding
	• Develop opportunities for Montana Tech administration, faculty and staff to interact with Montana legislators	In conjunction with UM, informal meetings and invitation to appropriate representatives.	Develop opportunities to meet with our collaborative partners when they meet with the local delegation (i.e., St. James Healthcare)

Montana Tech of The University of Montana *Building the Future while Honoring our Heritage* *GOAL V – Improve Funding Model*			
Objective	Action Plan	Assessment	Action
2. Work with the University of Montana and the Montana University System to improve the funding model in ways that more effectively funds program throughout the MUS and especially Montana Tech	• Become enfranchised in the executive policy decision making process of The University of Montana- Missoula and the MUS	Fiscal, Academic and Executive officers meet prior to the BOR meetings if not more frequently.	
	• Restructure the funding model so that it is more sensitive to the needs of the small campuses	Maggie Peterson serving on the OCHE allocation model sub-committee. Submitted the Dept of Education Sustainability Grant in 02 (not funded)	
	• Provide for realistic and flexible funding the smaller high-cost programs of Montanan Tech and provide more equitable funding of general fund dollars for Tech.	Maggie Peterson serving on the OCHE allocation model sub-committee. Submitted the Dept of Education Sustainability Grant in 02 (not funded)	
	• Eliminate current counter productive and negative consequences of funding model penalties	Tuition policy committee – Frank Gilmore	
	• Improve funding for Montana Tech research programs in fundamental and systematic ways in a more equitable manner with the two university campuses.	No improvement at this time.	Continue to seek funding allocation based on the level of research activity.

ATTACHMENT III
Economic Development Profile:
Montana Tech of The University of Montana

Economic Development Profile:
Montana Tech of The University of Montana

Montana Tech of The University of Montana continues to support economic development in Southwest Montana. This support includes direct assistance programs, workforce development and technology transfer. In addition, the campus research enterprise contributes over $5 million annually to the regional economy.

BUSINESS ASSISTANCE PROGRAMS

- Center for Advanced Mineral and Metallurgical Processing (CAMP) is an engineering, consulting, research, development and testing facility focused on providing high quality solutions to industrial clients worldwide.
- The Rocky Mountain Agile Virtual Enterprises (RAVE) project uses collaborative methodologies to allow companies to efficiently combine core competencies to achieve and sustain competitive advantage in a world economy increasingly dominated by network technologies.
- The Montana Bureau of Mines and Geology activities are focused on service and applied research for the state, including groundwater issues in the state, mining, coal and coal bed methane, environmental hazards and geologic mapping. The Bureau more than doubles the state dollars it receives through contracts and grants. State funding provides about 24 jobs, and the contracts and grants provide approximately another 30 FTE positions that bring money into the Butte and Billings economies.
- A recent grant from the Department of Commerce will allow Montana Tech to establish an Economic Development Resource Center. The Center will couple campus resources to ongoing economic development efforts of the region. The office's major goal is to coordinate and facilitate the economic development resources at Montana Tech and assist the efforts of the local economic development agencies in Southwest Montana.
- Montana Tech provides specific industry support to Montana companies through specific contractual agreements. Examples include:
    - MRI, Butte
    - ARCO, Anaconda
    - MSE-TA Inc., Butte
    - DEQ, Helena
    - Stillwater Mining Co., Nye
    - ASiMI, Butte
    - Scientific Materials, Bozeman
- The Mine Waste Technology Program (MWTP) has existed on the Montana Tech campus since 1991. The EPA, through the National Risk Management Research Laboratory (NRMRL) in Cincinnati, OH, DOE FETC, and MSE Technology Applications, Inc., fund the MWTP. Initially, the MWTP was a stand-alone entity; however, over time, the program evolved into a research and educational organization contracting with a variety of organizations, including the U.S. Forest Service, U.S. Bureau of Land Management, Montana Department of Environmental Quality, K-State Hazardous Substance Research Center, ASiMI, Inc., MSE-Technology Applications, Inc., EPA National Risk Management Research Laboratory, Butte's new CTEC, and Montana Tech.
- Montana Tech was a founding member of the Southwest Montana Technology Development Network with the Butte Local Development Corporation. Faculty participate in ongoing discussions of technology applications and opportunities for collaborations in the region.
- Service learning projects with teams of technical writing students benefit a wide range of clients in the region.

- Montana Tech Library is the only United States Patent and Trademark Depository in Montana. Its reference librarians answer questions weekly from inventors and business researchers from all over the State about how to obtain patents and trademarks.

WORKFORCE DEVELOPMENT

- Students in the Small Business Institute Internship class have worked on more than 25 projects over the last seven years with many small business owners in the community.
- College of Technology works closely with the Butte Local Development Corporation regarding training for new companies starting a business in Butte.
- Montana Tech is working with St. James Healthcare to develop the National Center for Health Care Informatics and other responses to health care workforce needs.
- Work with MSU–Bozeman to deliver a collaborative master's degree program for local engineering company to retain and expand career opportunities for its employees.
- A number of staff and faculty serve on various community, regional and state economic development boards.

TECHNOLOGY TRANSFER

- Montana Tech continues to work with local industries to develop the economic potential of intellectual property generated on campus or jointly developed with our industrial collaborators. Some examples include:
    - Joint license agreement with MSE, Inc. and our Metallurgical and Materials Engineering Department to design and manufacture innovative water treatment systems for arsenic removal.
    - Joint license agreement with Montana State University to Bristol Meyers Squibb to develop efficient production methods for cancer treatment agents.
    - The Small Business Innovation Research (SBIR) program provides campus assistance to small companies enhancing current products or in developing new ideas and products. Current collaborators include:
    - A rapid-deployment, three-dimensional seismic reflection system for subsurface imaging – PFM Manufacturing, Townsend, MT
    - Use of fungally derived sporogens to induce dark sporulation in mycoinsecticidal fungi – Mycotech, Butte, MT
    - Innovation Construction/Structural BEAM from Small Dimensional Lumber – Henderson Creek Corp., Hall, MT

AN INDUSTRY WITHIN THE UNIVERSITY

- Faculty and staff actively seek extramural support for research and technology development work on campus. These funds support faculty salary, expenditures in the local community for services, and student salaries. In FY 2001, the campus expended $5.5 million for these purposes and employed 60 faculty and staff and 100 students. In the past, major renovation grants (Chemistry Building renovation with $1 million from National Science Foundation) and various equipment grants (over $1 million from NSF in the last four years) have also contributed to the local and state economies.
- Public policy decisions made by the State Legislature in the late 1980's have lead to this unprecedented expansion in the research and technology development carried out on the Montana Tech campus. In the period from 1990 to 2000, Montana Tech experienced a 500 percent growth in income from extramural sources. These sponsors now account for nearly 20 percent of the total campus budget.

ATTACHMENT IV
Assessment of the Institutional and Student Outcomes
Montana Tech of The University of Montana

OUTCOMES: MONTANA TECH STUDENTS WILL HAVE OR BE ABLE TO:	MISSION BASIS	HOW ACHIEVED	LEVEL	ASSESSMENT TOOLS, Process/Strategies "How's"	ASSESSMENT GOAL	ASSESSMENT	ACTION
Function on Teams	Learning environment that stresses practical, hands-on experiences and internships	Capstone experience, Specific coursework			Score of 3.5/5 on surveys of seniors, alumni and advisory boards	Survey data of graduating seniors who attended commencement indicates a 2003 result of 4.36 and a 2004 of 4.35. Assessment at the programmatic level indicates that students are functioning on teams and they are participating in the evaluation	Determine a more appropriate tool to measure the ability of students to function on teams.
			Mid	Program advisory boards			
			Exit	Capstone courses, program survey of seniors, alumni, & advisory boards			
Relevant Work Experience	Learning environment that stresses practical, hands-on experiences and internships	Career Services internships and placement, specific courses			80% with relevant work experience prior to graduation	Yr – Eng – NonE-ALL 1999 –84%- 61% - 73% 2000 – 3% - 52% - 67% 2001 – 75% - 51% - 64%	Data analysis to determine reason for decline. Re-evaluate the action plan
			Mid	Internship evaluations, program advisory boards			
			Exit	Graduate Placement Survey, survey of seniors, alumni, & advisory boards, Capstone courses, *Internship Survey*			

Express Oneself in Written and Oral Form	Graduates well rounded, competent, responsible and ethical professionals	Capstone experience, Communications Gen Ed, specific courses	*Entry*	Composition Placement Exam, Compass Exam (COT only)	Score of 3.5/5 on surveys of seniors, alumni and advisory boards CAAP ACT testing at national average.	Surveys of graduating seniors who attended commencement indicate a result of 429 and 4.19 in 2003 and 2004, respectively. CCP/ACT Writing Score Jan 2003 of 64.7 with national average 64.5. CAAP/ACT Writing Score Jan 2004 of 64.3 with national average 64.5.	Compass exam instituted for enhancing success of non-traditional students. English placement formulated based on ACT or Compass Scores beginning Fall 2002.
			Mid	Writing "W" Course completion requirements CAAP-ACT Col. Assess Exam			
			Exit	Capstone course, survey of seniors, alumni, & advisory boards			

OUTCOMES: MONTANA TECH STUDENTS WILL HAVE OR BE ABLE TO:	MISSION BASIS	HOW ACHIEVED	LEVEL	ASSESSMENT TOOLS, Process/Strategies "How's"	ASSESSMENT GOAL	ASSESSMENT	ACTION
Critical Thinking Skills	Graduates well rounded, competent, responsible and ethical professionals	Specific courses, Gen Ed	*Entry*	ACT/SAT Scores	Score of 3.5/5 on surveys of seniors, alumni and advisory boards CAAP ACT testing at national average.	Surveys of graduating seniors who attended commencement indicate 4.29 and 4.33 on the 2003 and 2004 survey, respectively. 2003 CAAP results indicate a campus score of 63.7 on the Critical Thinking skills section. The national average was 62.1. Montana Tech meets this goal.	Continue to assess. Re-evaluate survey as to viability of results.
			Mid	CAAP-ACT Col. Assess Exam & coursework,			
			Exit	Capstone course, Senior survey			
Global/Multicultural Awareness	Emphasize science and engineering with a national	Humanities, Social Science Gen Ed			Score of 3.5/5 on surveys of seniors, alumni and advisory	Survey of graduating seniors conducted in	Continue to assess.
			Mid	CAAP-ACT Col. Assess Exam & Coursework			

	and international reputation for excellence Graduates who are well rounded, competent, responsible and ethical professionals		*Exit*	Senior and Alumni Survey	board CAAP ACT testing at national average.	2003 and 2004 of the graduating class who attended commencement indicate survey results of 3.78/3.76, respectively. CAAP Score of Reading Arts/Literature and Social Science scores for the junior class respectively of 16.1 and 17.1. National averages of 15.7 and 16.5, respectively in 2004	

Appreciation for Diversity	Emphasize science and engineering with a national and international reputation for excellence Graduates who are well rounded, competent, responsible and ethical professionals	Humanities, Social Science and Gen Ed	*Entry*		Score of 3.5/5 on surveys of seniors, alumni and advisory boards CAAP ACT testing at national average.	Survey data from the 2003/2004 graduating seniors who attended commencement indicate 4.04/3.93, respectively.	Investigate the means to measure and appreciation for Diversity.
			Mid	CAAP-ACT Col. Assess Exam & Coursework			
			Exit	Capstone course			

OUTCOMES: MONTANA TECH STUDENTS WILL HAVE OR BE ABLE TO:	MISSION BASIS	HOW ACHIEVED	LEVEL	ASSESSMENT TOOLS, Process/Strategies "How's"	ASSESSMENT GOAL	ASSESSMENT	ACTION
Understanding of the Scientific Method	Dedicated to assisting students attain success in their academic, professional and individual life Learning environment that stresses practical, hands-on experiences and internships	Physical/Life Science Gen Ed	*Entry* *Mid* *Exit*	 CAAP-ACT Col. Assess Exam, coursework Senior and alumni survey	Score of 3.5/5 on surveys of seniors, alumni and advisory boards CAAP ACT testing at national average.	Survey of graduating class from the 2003/2004 indicates 4.18/4.08, respectively. CAAP Score of 62.7 on the Scientific Reasoning. National Average 61.1.	Continue to assess.

Function at the Algebraic Level	Emphasize science and engineering with a national and international reputation for excellence Dedicated to assisting students attain success in their academic, professional and individual life	Math Gen Ed, Physical and Life Sciences Gen Ed	*Entry* *Mid* *Exit*	ACT/SAT Scores Mathematics Placement Exam CAAP-ACT Col. Assess Exam Coursework	Score of 3.5/5 on surveys of seniors, alumni and advisory boards CAAP ACT testing at national average.	CAAP ACT Assessment Exam Mathematics Score from Jan 2004 - 15 on the Algebra subset of the mathematics exam. The national average is 15.2. Montana Tech does not meet this goal but continues to strive for higher levels in math because of its key relationship to success in the technical fields.	Calculus with Algebra enhancement added. Advising placement mandatory for math based on compass or ACT scores. New placement exam software purchased by math department in spring 04.

OUTCOMES: MONTANA TECH STUDENTS WILL HAVE OR BE ABLE TO:	MISSION BASIS	HOW ACHIEVED	LEVEL	ASSESSMENT TOOLS, Process/Strategies "How's"	ASSESSMENT GOAL	ASSESSMENT	ACTION
Appreciation for Lifelonglearning	Graduates are well rounded competent, responsible and ethical professionals	Advising, Specific Courses, Gen Ed	*Entry*		Score of 3.5/5 on surveys of seniors, alumni and advisory boards CAAP ACT testing at national average.	Survey data of graduating class who attended commencement indicates a score of 4.3/428 for 2003/2004, respectively. . .	Investigate other means to measure an appreciation for lifelong learning.
			Mid	CAAP-ACT Col. Assess Exam			
			Exit	Coursework, Program survey of seniors, alumni, & advisory boards			

Prepared for Entry-level Employment	Learning environment that stresses practical hands-on experiences and internships	Specific courses and curriculum, Capstone design	*Entry* *Mid* *Exit*	Specific courses Specific courses Career Service Placement Survey, Industry Advisory Boards, Alumni Survey	80% of those eligible will pass a professional licensure exam	2002 ASRN 87% 2003 ASRN 72.5% 2003 FE - Fall 03 50% Spring 03 54%	Further investigation of the FE subject areas to identify areas in need of improvement. Goals may need to be individualized at the program level. Test equation book now required beginning at Static's level to help familiarize student with nomenclature.

OUTCOMES: MONTANA TECH AS AN INSTITUTION WILL HAVE OR BE ABLE TO:	MISSION BASIS	**HOW ACHIEVED**	**LEVEL**	**Process/Strategies "Hows"**	**ASSESSMENT GOAL**	**ASSESSMENT**	**ACTION**
Attract a Diverse Student Body	Comprehensive university emphasizing science and engineering with a national and international reputation	Student recruitment Add new degree programs Scholarships	*Entry*	ACT	Student body composed of 10% International, 8% Ethnic Minorities, 10% US Nationals/ out-of-state residents and 50% women	2004 student body composition 3% International, 4% Ethnic Minorities, 11% US Nationals/ out-of-state 55%Male 45%female	The events of September 11, 2001 limited our ability to enroll International students. SEVIS to satisfy new requirements of INS. Other campus activities to recruit a diverse student body include: Advantage scholars, Tour of Nations.
			Mid				
			Exit	Alumni Survey Program Advisory Board Surveys Non-attending survey Graduate Exit Survey Student Retention Survey			

OUTCOMES: MONTANA TECH STUDENTS WILL HAVE OR BE ABLE TO:	MISSION BASIS	HOW ACHIEVED	LEVEL	ASSESSMENT TOOLS, Process/Strategies "How's"	ASSESSMENT GOAL	ASSESSMENT	ACTION
Retain Students to Graduation ***(attainment of learning goals)***	The campus is dedicated to assisting students attain success in their academic, professional, and individual life goals. A personalized set of support services is available to all students	Tutoring Specific courses Career Services Office Counseling services Add new degree programs Retention program	*Entry*	ACT Exam Compass Exam	6-year graduation rate of 51% and a first-year retention rate of 75% Data: Retention database	6-year graduation rate of 46.7%(5 year average) and a first-year retention rate of 66.7% (5-year average) FOR COT programs 3 year graduation rate 41.1% and 49.8% first year retention	Compass test Fall of 2002 for placement of non-traditional students in math and science Perkins funding Hired full-time remedial math. Track Scheduling Advising Center Freshmen seminars added to programs without a freshmen course in the major
			Mid	Student Satisfaction Inventory Institutional Priorities Survey			
			Exit	Student Retention Survey TLC Survey Graduate Exit Survey Graduate Placement Survey Program Advisory Board Surveys Alumni Survey Student Satisfaction Inventory Institutional Priorities Survey Non attending survey			

OUTCOMES: MONTANA TECH WILL HAVE OR BE ABLE TO:	MISSION BASIS	HOW ACHIEVED	LEVEL	ASSESSMENT TOOLS, Process/Strategies "How's"	ASSESSMENT GOAL	ASSESSMENT	ACTION
Grow the Enrollment	While honoring our heritage, we will constantly evolve our programs to meet the needs of the future.	Add new degree programs Scholarships	*Entry* *Mid* *Exit*	ACT Exam Graduate exit survey Alumni survey Capstone courses Program advisory board surveys Non-attending survey Student retention survey	3.1% growth rate for the next 6 years (beginning 2001 fall) for a total enrollment of 2400 FTE	FY 2001 1944 FTE FY 2002 1903 FTE 2.1% decline FY 2003 1984 4.3 % increase FY 2004 2057FTE 3.7% increase FY 2005 (estimate) 2000 2.8% decrease	Delve deeper into data concerning students who are successful Sustainable Growth Initiative Advantage scholarship Engage faculty and staff in recruitment and retention

OUTCOMES: MONTANA TECH WILL HAVE OR BE ABLE TO:	MISSION BASIS	HOW ACHIEVED	LEVEL	ASSESSMENT TOOLS, Process/Strategies "How's"	ASSESSMENT GOAL	ASSESSMENT	ACTION
Aid Students in Obtaining Career Employment	A personalized set of support services is available to all students. Students study in a learning environment that stresses practical, hands-on experiences and internships. Montana Tech programs are designed to produce graduates who are well rounded, competent, responsible, and ethical professionals.	Specific courses Career Services Office	*Entry* *Mid* *Exit*	Graduate placement survey Graduate exit survey Alumni survey Capstone courses Program advisory board surveys	90% placement rate in degree related employment or continuing education within a year of graduation with a total placement of 95%	***North Campus Degree Related%*** **YEAR PLACEMENT** 1999 82 2000 82 2001 80 2002 80 2003 82 **COT Degree Related%** **YEAR PLACEMENT** 1999 74 2000 66 2001 70 2002 84 2003 89 **Overall %** **YEAR PLACEMENT** 1999 98 2000 97 2001 97 2002 97 2003 99	Met the 95% overall placement. Reinitiated the Career Fair in 2000. Visiting companies are up when nationwide the average is down.

OUTCOMES: MONTANA TECH WILL HAVE OR BE ABLE TO:	MISSION BASIS	HOW ACHIEVED	LEVEL	ASSESSMENT TOOLS, Process/Strategies "How's"	ASSESSMENT GOAL	ASSESSMENT	ACTION
Increase Research Productivity	Research and other scholarly activities of the faculty, staff, and students contribute to innovation and problem solving; provide practical solutions for business and industry; and add to the general body of knowledge.	Faculty recruitment Faculty reward system			Increase research funding to $8million/year and increase research production to 75% of faculty each year	Funding: FY00 - $5.5MM FY01 $5.3MM FY02 $5.4 MM FY03 $ FY04$6.4MM Researchers on the faculty FY00 -45 FY01- 38 FY02- 53	BRIN Research salary UG Research Major equipment grants – match equipment fees Seed grants Returns to generators 50% Interdisciplinary PHD with UM
			Mid	Student satisfaction inventory Institutional priorities survey			
			Exit	Student satisfaction inventory Institutional priorities survey Faculty retention survey Research productivity survey Student retention survey			

Provide relevant service to Montana and Beyond	Research and other scholarly activities of the faculty, staff, and students contribute to innovation and problem solving; provide practical solutions for business and industry; and add to the general body of knowledge. The economic development of the immediate service area and the state of Montana is an important part of the outreach activities.	Faculty reward system	*Entry* *Mid* *Exit*	Research productivity survey Student retention survey	Increase the number of k-12 teachers and students served 10%/year. Increase the % of faculty involved in off-campus service to 90% over a period of five years (beginning 2001). Increase the % of students involved in service to 25% over a period of 5 years	Data is currently being evaluated.	Murdock Fdn Speakers Bureau Science fair School visits Undergraduate research Service learning projects STEP Upward Bound Gear UP Little diggers day in planning for invites to local schools to help better accommodate the groups and engage more of the faculty.

ATTACHMENT V
Mingle Restructuring Report
Montana University System

James R. Mingle
Prepared for the Montana University System

November 10, 2000
Final Report

Dr. James R. Mingle is Executive Director emeritus of the State Higher Education Executive Officers and a consultant in higher education located in Littleton, Colorado. He may be contacted at jmingle@msn.com

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An Evaluation of the Montana University System's Progress in Implementation of Restructuring Goals

Charge and Scope of Study

In October 2000, the Office of the Commissioner of the Montana University System contracted with James R. Mingle & Associates to conduct a review of the progress of the system and its constituent institutions in implementing the restructuring plans, which took effect on July 1, 1994. This review was intended to supplement the work of the Commissioner's staff, which had summarized institutional progress on a variety of objectives. Through a series of personal interviews with students, faculty, administrative staff, community leaders and legislators, the consultant was asked to provide a "qualitative assessment" to the Board of Regents as to the progress and problems of implementation of the various aspects of restructuring. These interviews were conducted during the period October 15-20. Visits were made to campuses in Missoula, Butte, Bozeman, and Billings. In addition, face-to-face interviews were conducted with the staff, faculty and leadership of Western Montana College of The University of Montana (at the Butte campus), and telephone interviews were conducted with faculty and staff in Great Falls and Northern.

The interviews focused on the following themes and aspects of restructuring: (1) structural relationship between the universities and their affiliate campuses; (2) the level of collaboration across campuses among academic programs and individual faculty; (3) the progress in integrating administrative services and achieving cost savings; (4) the upgrading of the vocational-technical schools through the creation and affiliation of colleges of technology (COTs) with senior institutions; and (5) the level of progress in articulation, transfer and other student-centered concerns.

The Relationship Between the Universities and Affiliate Campuses

The most significant organizational aspect of the 1994 restructuring was the establishment of a reporting relationship between the chancellors of smaller local and regional institutions and the

presidents of the two major research universities in the state, The University of Montana, Missoula and Montana State University, Bozeman. In this new alignment, the chancellors of four-year institutions at Western in Dillon and Montana Tech in Butte now report to the president of the University of Montana, Missoula. Similarly, chancellors at Northern (Havre) and Montana State, Billings report to the president of Montana State, Bozeman. (The alignment of the Dillon campus with Missoula occurred in the late 1980s.) In addition, two-year campuses at Helena and Missoula have become units of the University of Montana, Missoula with similar alignments between the COTs in Butte and Montana Tech, the COT in Great Falls with Montana State, Bozeman, and the COT in Billings with Montana State, Billings. The two university presidents report through the Commissioner to the Board of Regents.

Structurally, the Montana University System is classified along with 25 other states as having a "consolidated governing board," although in practice these other states operate somewhat differently than the system established in Montana. Typically a consolidated system is headed either by a chancellor or president with no specific campus responsibilities. Campus leaders, regardless of title, report to the CEO of the system in an equal status. In other consolidated systems, the board receives staff assistance from an executive director or commissioner while each separate campus CEO works at the pleasure of the board. Another approach used in states with multiple boards in the public sector is the university/branch campus model where smaller units are a more integral part of main campus operations.

In adopting the university/affiliate model, the Board apparently sought to gain the cost and qualitative advantages of a more "unified" system while maintaining the individual campus identity of its local and regional institutions. System-level approaches to governance are known for their ability to speak with a single voice to political leadership and to gain efficiencies and quality improvements through program coordination. Governance systems which accentuate local control often emphasize entrepreneurship, competition, and community responsiveness.

The Montana restructuring plan of 1994 can be interpreted as an attempt to gain the advantages of both of these approaches. The centralizing aspects were aimed at gaining administrative efficiencies, implementing student-oriented goals such as improved transfer, and increasing the level of academic cooperation. The decentralizing aspects were to maintain the distinct identity and base of local support that exists in places like Butte and Billings.

Findings: Given the unique nature of the restructuring solution in Montana, it is not surprising to find different interpretations of the nature and meaning of the relationship between universities and affiliate campuses. But the level of disagreement and confusion over this relationship is excessive. Interviewees, when asked to describe the relationship, came up with a surprising variety of terms. These included "university systems," "branches," "sister campuses," "confederation," and "consortium." With the exception of Western, however, the staff and faculty at affiliate campuses preferred terms that described a "loosely coupled" relationship.
Only in the case of colleges of technology was there agreement that the smaller unit was a tightly linked (albeit neglected) part of the larger university or campus. Independent of structural relationships, staff and faculty at most of the affiliate campuses expressed dissatisfaction with the

lack of direct access of their chancellors to Board members and advisory structures of the Office of the Commissioner.

In part, this lack of clarity relates to differing management practices between the University of Montana, Missoula and Montana State, Bozeman, with Missoula affiliates feeling a more controlling relationship from the lead university, although dissatisfaction with this relationship is primarily centered on a single campus, Montana Tech. In a communication to this consultant, the Faculty Senate Chair at Montana Tech expressed the following: "...Tech's affiliation with the UM...has damaged our institution's 'integrity,' our ability to function with necessary independence when dealing with such vital campus matters as promoting faculty, handling finances, increasing enrollment, petitioning the legislature and securing accreditation.

Recommendations: To some in the system, the ambiguity of the restructuring language and implementation is a virtue. It allows flexibility of implementation, while sustaining the "unified" nature of the overall plan. But ambiguity can lead to unnecessary conflict, over both real and symbolic issues. Ambiguity also leads to inconsistent implementation of board objectives as personalities and leadership styles change.

While this consultant does not agree with those who believe institutional "integrity" is threatened, disagreements over structural relationships are significant enough that if not addressed in the near future, they could affect the public image and support of the Montana University System as a whole. Equally important, they stand in the way of implementing some of the programmatic goals of restructuring. In Appendix A to this report, I have provided a matrix outlining important issues that the Board, Commissioner and institutions might use as a starting point to reach some agreement on contentious issues. While I have left the details of this specification to negotiation among the parties, my subsequent recommendations suggest in some cases my recommended course of action.

In the case of the concerns raised by the Montana Tech faculty, I would suggest the board look closely at the questions of promotion and tenure review. However, I disagree with the suggestion that this institution, or any other, establish independent relationships with their local legislative delegations. This should remain the responsibility of the Board and the Office of the Commissioner.

My recommendations, then, are as follows:

1. The Board of Regents and the Office of the Commissioner establish more explicit guidelines to govern the administrative, financial, and academic relationships between the Universities and the affiliates. The specification of reporting and leadership responsibilities should be a part of a formal Memorandum of Understanding between the Universities and their affiliates, which is reviewed annually by the parties.
2. The expectations outlined in this memorandum should be a part of the formal evaluation of senior institutional leaders on the campuses.
3. The Office of the Commissioner should explore mechanisms for a more "inclusive" approach to seeking advice from the affiliate campuses.

Academic Program and Faculty Collaboration

Both lay board members and legislators expected that the 1994 restructuring would improve the level of program collaboration and eliminate unnecessary duplication of effort. For some legislative leaders, the problem of the Montana higher education system was too many institutions. Their hope and expectation was that a "superboard" would take the necessary steps to merge or close campuses. In this regard, many legislators remain unsatisfied with the changes made.

In the case of faculty – especially faculty in the affiliate institutions – the restructuring of 1994 raised expectations for collaboration. As one faculty member expressed it, "I was hoping the merger with (one of the universities) would facilitate intellectual partnerships, e.g. in the form of grant writing or inclusion...on Ph.D. committees. This has not happened to me, despite numerous explicit overtures to my counterparts (at one of the universities)."

Another faculty member who was interviewed observed that in the immediate period following restructuring there was a flurry of activity. "Interest Councils" were developed to bring together faculty from the affiliates and the lead universities.

"I served on two – one in humanities and the other in business. The humanities group has met once since 1994, the business group twice. In both cases the message from the lead university was: 'I know you don't want to be here, neither do we.'

Many faculty interviewed expressed explicitly or implicitly the view that restructuring was a political strategy without programmatic substance. This skeptical notion is reinforced by their lack of direct experience with collaborative programs and activities.

Senior administrators at both the university campuses and the affiliate institutions recognized the lack of progress in academic collaboration but did note successful examples as well as plans for new initiatives. These include:

Significant progress in sharing resources and expertise in the distance learning arena. This was viewed as especially valuable at Western

A collaborative initiative between Montana Tech and Montana State University in "project engineering management"

Plans by Montana Tech to deliver lower division engineering courses to undergraduates at the University of Montana

The delivery of a master's degree in education by the University of Montana at the Dillon campus, and a master's of business administration delivered statewide.

Findings: Restructuring has had only modest impact, and in some areas no impact, on the level of academic collaboration and resource sharing. There appears to be no strong mandate from institutional leaders for this collaboration to take place and few incentives in the system to undertake such efforts. Nor are there any structures or funding mechanisms for joint instructional programs to develop. In the area of research, only the federally sponsored EPSCOR programs provide such a mechanism and these remain under-funded by the state. Given the size and budget of the Commissioner's Office, there is no current capacity at this level either to foster collaboration. Some of the lack of collaboration is systemic to the decisions made regarding affiliations. If, for example, Montana Tech had been grouped with Montana State, a higher level of collaboration and integration in the area of engineering might have occurred.

Where successes have taken place, they have occurred because of "enlightened self-interest" and leadership. This is clearly the case with distance learning initiatives, but also in the area of library resource sharing, which is discussed below.

In the area of new program development, a system as small as Montana's should always be alert to collaborative possibilities. The Office of the Commissioner also should be aware that many of the affiliate campuses are skeptical about the ability of the University presidents to "wear two hats" and advocate aggressively for their local needs. In states with limited resources and some communities in economic decline, there is a tendency to be overly conservative on program development. New start-ups are often discouraged even if justified by demand. Location of programs may also be dictated by historical patterns rather than community needs.

Billings is a case in point. As program demands expand in this urban area, the Montana University System has three options for program development: (1) locate programs in Bozeman and expect individuals to relocate or commute; (2) locate programs on the Billings campus; or (3) develop joint operations. In many cases the current expertise and degree authority may reside in Bozeman, while the employment opportunities, internships, and private sector partnerships may exist in Billings. In the case of Northern, administrators and faculty believe strongly that their ability to compete for enrollments is hampered by limitations on their ability to offer programs in Great Falls.

The financing system in Montana was designed to promote competition and a "market responsive" environment. Dollars follow students and in a rather direct (instead of phased) fashion. But program array has a powerful influence on where students enroll. Thus, the decisions made on programs either protect or hurt an institution's competitive position. Increasingly, state boards also are putting program decisions on a market rather than a "mission" basis. Program location is dictated more by community need and demand than by institutional capacity and mission. Steadily, such states are moving to a "consumer dominated" system as opposed to "producer-dominated."

As for explicitly financing collaboration, there are a number of options to consider. First, the Montana University System may need a more clear-cut "revenue sharing" policy – one which recognizes the contribution of the partner who may be providing local support but not generating credit hours. Another mechanism to consider is "off the top" funding before the allocation to individual campuses is made. In this way, collaborative or team approaches to program development can be funded – either through the Office of the Commissioner or a lead institution. In many states, either through virtual university initiatives or statewide library networks or other "utility" functions, the system jointly funds a function that serves the entire system. This can be done through the Commissioners budget, or by a line-item request to the legislature, or even consortial membership fees paid by the campuses.

Recommendations:

4. *The Board of Regents should consider reviewing the current funding policies toward the goal of providing appropriate incentives and structures for academic collaboration.*
5. *Academic leaders at the institutional, college and department levels should be held accountable and rewarded for their ability to foster collaboration and resource sharing.*

6. The Office of the Commissioner should play the role of "neutral reviewer" of program proposals to assure that the needs of local communities are being met appropriately.

The Integration of Administrative and Academic Support Services

In 1994, the Board envisioned a number of opportunities for improved services at lower costs (or cost avoidance) through the merger and integration of administrative and academic support services across its campuses. Such expectations were not unrealistic or inappropriate, given the size of many campuses in Montana and the successful experience of the private sector in "outsourcing" of nonessential activities. Moreover, the dramatic improvements in information technology, communications networks, and administrative and data-base management software have opened up new opportunities for achieving economies of scale and improving the speed and reliability of services.

Like other technology-driven changes, the costs of these new administrative systems in hardware, software, and training are substantial, immediate and concrete, while the benefits tend to be more diffuse, long-term, and difficult to measure. How does one value, for example, the benefits accruing to a working adult who can register, pay, obtain a class schedule, and even take a course over the internet? It may mean nothing less than the critical time saver which allows that individual to obtain the skills he or she needs to compete in the job market.

The growth of outsourcing for "back office" operations – like network management, data warehousing, registration and transcript issuance, payroll, internal audit, accounting, purchasing, facilities management, cash management, staff hiring and training, food service, and bookstore – proceeds at a rapid pace throughout the country. Some of this outsourcing is done to a "lead institution," others to external concerns. In both cases, the objective should be to improve service (through standardization) and lower costs on a per-unit basis (namely, serve a lot more students with a few more dollars; or a few more students with the same dollars).

The problems of implementation of such centralized or outsourced services are no longer technological problems. Rather, they relate to human factors such as control and willingness to compromise over standards. (The reason that consumers now have access to their financial accounts through ATMs from many locations, or to data bases that tell them all of their flight options, is that competitors, out of their own self-interest, have agreed to develop these standards and the mutual structures that support them.)

Findings: **The progress made in Montana over the past six years in the development of shared information systems, centralized back-room operations, and joint financial planning and debt management is significant. But that progress is being threatened by the unwillingness of individuals in key positions to cooperate. On the one hand, affiliate campuses charge that lead institutions fail to recognize their expertise, fail to consult, and impose a single view on the affiliate. On the other hand, the lead campuses believe they have absorbed the bulk of the cost of implementation and have received little cooperation or gratitude in return. In part, this continuing conflict is nothing more than the rub of change, but it also stems from the underlying lack of clarity in the nature of the university/affiliate relationship.**

In its summary of institutional responses to restructuring, the Office of the Commissioner notes a number of successes in administrative resource sharing and in academic support functions. I endorse these findings and wish to particularly highlight the following:

- The decision of the University of Montana, Missoula and its affiliate campuses to cross-pledge revenues on debt financed construction, thus lowering administrative and interest costs for all and allowing the construction and renovation of facilities that might not have been possible otherwise.
- The leadership of Bruce Morton of Montana State University, Bozeman and others in the library community to extend services and resources to locations that would have remained under-served.
- The constructive partnership between Western in Dillon and the Missoula Campus. The chief financial officer of the Dillon campus sees herself as an integral part of the committees developing allocation formulas and debt management policies. In return, this small campus gets valuable assistance in a number of areas – plant management, software licensing, human resource training, payroll, and legal counsel.

Butte's dissatisfaction with administrative relations contrasts dramatically with that of Western. Larger in size with a longer tradition and greater national visibility, Montana Tech tends to view any centralization of administrative functions as an intrusion upon its autonomy. This is exacerbated by poor working relations at the vice chancellor level and a number of irritating, in the view of Montana Tech administrators, unnecessary challenges to the institution's independence.

The key to any administrative or academic relationship between units of the same system (I speak here of the "Montana University System") is trust and professionalism. Institutional leaders and their community supporters should not confuse attempts at achieving integrated cost-effective services with the ability of the institution to set its own course and destiny. Nor should affiliate campuses assume that this destiny can be achieved solely on the strength of its past accomplishments. At the same time, administrators and faculty at the universities should be sensitive to the often correct perceptions of individuals on affiliate campuses that they are not being treated as equal contributing partners.

Recommendations:

7. *The Board and Office of the Commissioner should continue efforts to gain productivity improvements and cost savings through the fullest possible integration of administrative services and data systems. The development of a truly integrated "statewide library system" would be an appropriate next step.*
8. *The Memorandum of Understanding suggested in Recommendation #2 should be the basis for identifying problems in current initiatives. Administrators in these areas should clearly understand mutual responsibilities and be evaluated on their ability to accomplish these agreed-upon goals.*

Integration of the Vocational/Technical Sector with Senior Institutions

When compared to other states, Montana has historically under-invested in vocational/ technical programs and two-year transfer institutions. This may be typical of other mountain and plains states but not in the South and Far West where strong community and technical college systems enroll significantly larger proportions of the postsecondary population.

Given the importance of workforce development and the growing demand from students for a technical education, it was appropriate that the 1994 restructuring sought to upgrade the vocational/technical sector. The solution in Montana, however, has been somewhat different than that taken by other states, where the presence of a substantial community college sector has provided a different venue for merger and upgrading. (Kentucky, for example, recently separated its two-year campuses from the University of Kentucky and merged them with a voc-tech sector formerly governed through the state department of education.)

Findings: In interviews with faculty and staff of the colleges of technology in Missoula, Butte, Helena, and Great Falls, I found a consensus that "progress had been made" but not nearly enough. Interviewees noted the following:

- The merger at Missoula with the four-year campus has provided increased access for students to facilities – pharmacy and biology labs, for example. Student services are greatly improved and more importantly, new transfer opportunities (such as the baccalaureate of applied technology) are now available.
- At Butte, the former vocational technical school has also achieved qualitative gains through the access to facilities and strengthened transfer programs (for example, nursing and applied technology). The merger has brought greater credibility to occupational education, a sharing of instructors and shared labs. Student services, however, in the view of the Dean, have diminished as budgetary problems have caused services to be withdrawn from the COT and consolidated on the main campus.
- In Great Falls, interviewees noted the "very positive effect" of upgrading to a "college of technology" and the affiliation with Bozeman, including the opportunity to develop transfer programs – which now constitute about 30 percent of total enrollment.

There were dissenting voices, however, primarily from faculty and program directors. As one noted in a communication to this consultant, "I feel that the role of two-year education and this College's role in particular is neither understood nor respected [by the lead university]. We are a teaching college, not a research facility... I fear that [the research university] feels that substantial growth of this college will harm them [because of the funding formula]."

Among legislators, particularly at the meeting in Billings, there was a significant level of support for the mission of two-year campuses and suggestions that MUS and the state assume responsibility for the community colleges not in the system.

Recommendations:

9. The popularity and importance of workforce development programs that are relevant to Montana communities suggests increased attention and priority by the Regents and Office of the Commissioner to two-year education.

Student-Centered Issues: Remediation, Admissions, Transfer and Completion

Much of the original intent of the 1994 restructuring centered on strengthening admissions standards in four-year institutions and improving the timely progression of students through the system. Some of the policy objectives have subsequently been altered. In the case of admissions policy, no changes have been made. As for "credit caps" and related tuition policies, these have been liberalized to allow greater flexibility.

The Board, however, has sustained two policy objectives, much as they were designed in 1994: (1) remediation; and (2) transfer and articulation initiatives.

The Board policy on remediation is that pre-collegiate work should be the responsibility of the colleges of technology, not senior institutions. In the transfer area, the Board has mandated a fully transferable "general education" component that is to be accepted by all institutions.

Findings: Have the movements of students across campuses and their timely progression to graduation improved since restructuring? The answer is unknown. Neither the Office of the Commissioner nor any of the campuses could provide trend data or comparative statistics on these important questions.

As noted in the previous section, there is evidence that the implementation of transfer programs in the former vocational-technical schools has resulted in new transfer enrollments. From anecdotal evidence gleaned from student interviews, however, transfer of students across the system (and from accredited institutions outside the system) remains a significant problem. Apparently, the MUS policies on general education have yet to make a major impact. This is due in part to the pattern of enrollment in general education where students tend to spread their general education work out over four years. More critical to students who transfer is acceptance of courses toward program degree requirements (for example, lower division math courses that are prerequisites for further engineering course work, or teacher education courses that meet institution-specific requirements).

Credit caps also were designed to promote more rapid movement of students. By imposing limits on degree requirements and financial penalties for excess credits, both institutions and students were expected to pay more attention to progression. In interviews with students, the credit caps remain a matter of contention, despite their liberalization. Moreover, many student leaders noted that excess credits were not a matter of "aimless enrollment" but poor advising, poor articulation, and continually changing degree requirements combined with short notification of degree completion requirements. To quote a University of Montana student: "Part of the reason we aren't graduating is the quality of advising and the fact that programs are constantly changing. Faculty members in departments are not well-informed. Sometimes we get only fifteen minutes to figure out what to take in the next term. Maybe a system of professional advisors would be better." Similar expressions of frustration were heard from all student groups, with the exception of the Butte campus whose student leaders expressed a high level of satisfaction. (These Butte students all came from a single discipline, however – engineering.)

In the case of the effectiveness of remedial programs, this consultant did not have an opportunity to meet directly with faculty or students in these programs. It appears, however, that some of the changes in response to Board policy may be merely cosmetic. The mandate for colleges of technology and two-year institutions to assume responsibility for remediation may be meaningless when, in locations like Bozeman, there is no physical presence of a two-year institution. In fact, accountability for effectiveness may actually have dropped in these situations. Moreover, the nonselective admissions policy of the universities and the desirable goal to expand access to adults at these institutions suggest that offering remedial courses will remain a valuable and necessary function of these institutions.

Recommendations:

10. The Board should sustain its emphasis on transferability and timely progression to degree by supporting more systematic data collection at the system and campus levels, and by asking institutions to develop plans for improvement of student advising.

11. The Board should conduct an evaluation of the effectiveness of its remedial efforts before considering policy changes. A more specific strategy that fits a given location may be a better alternative than a uniform policy.

Appendix A

Governance and Management Responsibilities in the Montana University System

(Draft – Fiscal Worksheet)

For each of the cells below, the three parties will describe their appropriate role.

Fiscal & Administrative Responsibilities	**Office of Commissioner**	**Universities**	**Affiliate Institutions**
Executive & Legislative Branch Relations			
Reporting lines for CEOs			
Reporting lines for Vice Chancellors and Vice Presidents			
Present a single unified budget to the Governor			
Develop the allocation formula for base budgets			
Determine the facilities needs and funding priorities			
Incur and manage debt			
Manage cash and investments			
Determine locus of			

administrative support functions			
Accept gifts, grants			
Act as an agency for the receipt of federal funds			

Appendix B

Academic Programs & Academic Support Services

Responsibilities	**Office of the Commissioner**	**Universities**	**Affiliate Institutions**
Hire faculty			
Determine promotion and tenure policies			
Review & terminate existing programs			
Conduct strategic planning			
Develop mission statements			
Initiate new programs			
Approve/reject course offerings			
Establish credit transfer policies			
Confer degrees			
Set enrollment levels			
Establish admissions policies			
Develop joint academic programs			
Develop & coordinate library activities			
Develop & coordinate distance learning			