

**Montana State University – Northern
and
Montana State University - College of Technology Great Falls**

Program Description

- 1. Briefly describe the proposed new program. Please indicate if it is an expansion of an existing program; a new program; cooperative effort with another institution, business or industry; or an on-campus or off-campus program. Attach any formal agreements established for cooperative efforts.**

The proposed delivery of the B.S. degree in Civil Engineering Technology at the Great Falls College of Technology is intended to provide access for individuals in the Great Falls area to a four-year degree program in Civil Engineering Technology. The program is nationally accredited (ABET) and has been delivered for over 15 years by MSU-Northern.

- 2. Summarize a needs assessment conducted to justify the proposal. Please include how the assessment plan was developed or executed and the data derived from this effort.**

During 2003, personnel from Malmstrom Air Force Base requested a meeting with MSU-Northern personnel to discuss the feasibility of delivering the bachelor's degree in Civil Engineering Technology (CET) in Great Falls for base personnel. After discussions with MSU – Great Falls and the Great Falls Higher Education Center Advisory Council, the two institutions concluded that the feasibility of offering the degree in Great Falls was possible if the two institutions developed a closely aligned partnership and articulation agreement for delivery of the program. The agreement between the two institutions allows the Great Falls COT to deliver all lower division course work (excluding four required CET courses) and MSU-Northern to deliver the four lower-division CET courses and all upper division coursework. One additional lower-division CET course (CET 173) will continue to be delivered by the Great Falls COT; however, MSU – Great Falls will retain an MSU-Northern-approved instructor in the CET program to teach the course.

- 3. Explain how the program relates to the Role and Scope of the institution as established by the Board of Regents.**

The program represents two-year transfer education and four-year baccalaureate education demanded by Montana business and industry. The delivery of this program would be a natural extension of the mission of both institutions and would provide access to a program needed by one of the largest employers (Malmstrom) in Great Falls. The delivery of the program also provides a close alliance between a two-year and four-year institution.

- 4. Please state what effect, if any, the proposed program will have on the administrative structure of the institution. Also indicate the potential involvement of other departments, divisions, colleges, or schools.**

There will be no change to the administrative structure of either institution. All courses and activities will take place either on-site within the Great Falls College of Technology, online, or via NorthNet. The delivery of the program will also enhance access to lower division math and science courses for students in the Great Falls area. Coordination of the program and related services such as advising, marketing, and curriculum revision will be ensured through regular communication between MSU-N's CET Program Director, dean and provost with MSU-Great Falls' Associate Dean for Academic Affairs.

- 5. Describe the extent to which similar programs are offered in Montana, the Pacific Northwest, and the states bordering Montana. How similar are these programs to the one proposed.**

MSU-Northern is the only institution that provides a bachelors degree in Civil Engineering Technology. MSU-Bozeman and Montana Tech of the University of Montana offer engineering degrees. Since all personnel at Malmstrom Air Force Base are full-time employees and are limited in area where they can take the courses, all course work will be offered late afternoon, evenings, weekends, or online. However, the program and courses will be available to all interested individuals.

6. Please name any accrediting agency/ies or learned society/ies that would be concerned with the particular program herein proposed. How has this program been developed in accordance with criteria developed by said accrediting body/ies or learned society/ies?

The bachelors degree in Civil Engineering Technology offered by MSU-Northern is accredited by ABET.

7. Prepare an outline of the proposed curriculum showing course titles and credits. Please include any plans for expansion of the program during its first three years.

Overview of Curriculum

Program Tech Requirements		Institutional Responsibility	
CET 173	3	GF-COT taught by MSU-N faculty	
CET 220	3	MSU-N	
CET 221	3	MSU-N	
CET 181	3	MSU-N	
CET 232	3	MSU-N	
CET 375	3	MSU-N	
CET 385	4	MSU-N	
CET 307	3	MSU-N	
CET 305	3	MSU-N	
CET 315	4	MSU-N	
CET 361	4	MSU-N	
CET 411	4	MSU-N	
CHEM 111 (meets Gen. Ed. Cat III)		GF-COT (CHM 150)	(3)
CIS 110 (meets Gen. Ed. Cat IX)		GF-COT (CS 110 or CHAL 104)	(3)
CIS 171		GF-COT (CS 205)	3
ISET 410	3	GF-COT	
DRFT 131		GF-COT (DRFT 131)	4
DRFT 156		GF-COT (DRFT 156)	3
DRFT 244	3	GF-COT	
EET 110		GF-COT (EET 110)	3
ENGL 111 or Adv Approved Comm EI		GF-COT (ENGL 121)	(3)
ENGL 112 (meets Gen. Ed. Cat I)		GF-COT (ENGL 122)	(3)
ENGL 366 (meets Gen. Ed. Cat I)*	3	MSU-N	
IET 480	1	MSU-N	
IET 481	2	MSU-N	
IT 100	3	GF-COT	
IT 111	2	GF-COT	
MATH 112 (meets Gen. Ed. Cat II)		GF-COT (MATH 130)	(4)
MATH 125		GF-COT (MATH 131)	3
MATH 133		GF-COT (MATH 181)	4
MATH 220		GF-COT (MATH 182)	4
GSCI 412*	3	MSU-N	
ELECTIVE		Taught by either campus	2
MFGT 427	3	MSU-N	
PHYS 231 (meets Gen. Ed. Cat III)		GF-COT	(3)
PHYS 234 (meets Gen. Ed. Cat III)		GF-COT	(1)
CAT IV – Social Sciences		GF-COT	(3)
CAT V – History		GF-COT	(3)
CAT VI – Cultural Diversity		GF-COT	(3)
CAT VII – Fine Arts		GF-COT	(3)
CAT VIII – Humanities		GF-COT	(3)
General Education Requirements		GF-COT Equivalencies	
Cat I – Communications (6 credits)			

ENGL 112 (required Gen.Ed course)	ENGL 122	3
ENGL 111 (required for this degree) (See proposal for Adv. Communication)	ENGL 121, RI 121	3
<i>Cat II – Mathematics (3 credits)</i>		
MATH 112 (required for this degree)	MATH 130	4
<i>Cat III – Natural Sciences (6 credits)</i>		
CHEM 111 (required for this degree)	CHM 150	3
PHYS 231 (required for this degree)		3
PHYS 234 (required for this degree)		1
<i>Cat IV – Social Sciences (3 credits)</i>	MEETS GF-COT GEN ED.	
<i>Cat V – History (3 credits)</i>	MEETS GF-COT GEN ED.	
<i>Cat VI – Cultural Diversity (3 credits)</i>	MEETS GF-COT GEN ED.	
<i>Cat VII – Fine Arts (3 credits)</i>	MEETS GF-COT GEN ED.	
<i>Cat VIII – Humanities (3 credits)</i>	MEETS GF-COT GEN ED.	
<i>Cat IX – Technology (3 credits)</i>	MEETS GF-COT GEN ED.	
CIS 110 (required for this degree)	CS 110, CHAL 104	3

Course Descriptions

Since this degree is an existing degree, all course descriptions are included in the MSU-Northern or Great Falls COT online or hard copy catalogs.

Faculty and Staff Requirements

- 1. Please indicate, by name and rank, current faculty who will be involved with the program proposed herein.**

Michael Miller, MS, PE
 Larry Strizich, MS, PE
 Jeremy Siemens, BS, PE
 Mark Plante, MS
 Rebecca Johnson, MS
 Adam Wenz, MS
 Colleen Hazen, MA
 Grayce Holzheimer, MFA
 Kirk Mattingly, adjunct

- 2. Please project the need for new faculty over the first five years of the program. Include special qualifications or training. If present faculty are to conduct the program, please explain how they will be relieved from present duties.**

It is projected that during AY 2008, a new faculty member in Civil Engineering Technology will be hired by MSU-Northern for the Great Falls site. This individual will also coordinate and assist with delivery of the program. The Great Falls COT will use adjunct faculty to deliver the additional math and science courses required for the degree until increased enrollment necessitates the hiring of a full-time faculty member. Existing core classes will continue to be offered by current faculty.

- 3. Please explain the need for support personnel or other personnel expenditures.**

No additional support personnel costs are expected. Current support personnel will assist with the program.

Capital Outlay, Operating Expenditures and Physical Facilities

- 1. Please summarize operating expenditure needs.**

All equipment, labs and facilities are in place to support the required courses at either the Havre campus or the Great Falls campus. During the first two years of the program, lab equipment used in the CET classes will be rotated between the Havre campus and the Great Falls campus. Once the

new building in completed in Great Falls, new lab equipment for the physics classes and the CET classes will be added. In order to have an up-to-date CET lab for the Great Falls site, the further development of industry partnerships will continue to be a priority.

- 2. Please evaluate library resources. Are they adequate for operation of the proposed program? If not, how will the library need to be strengthened during the next three years?**

All online library resources to support the proposed degree are already in place. The librarians at the two campuses will continue to work closely together to provide library materials that will support the program at both locations.

- 3. Please indicate special clinical, laboratory, and/or computer equipment that will be needed. List those pieces of equipment or computer hardware presently available in the department.**

MSU-Northern already has a fully-equipped CET lab. During the first two years of the program (and until the new building is completed) equipment will be rotated between the Havre and Great Falls sites.

- 4. Please describe facilities and space required for the proposed program. Are current facilities adequate for the program? If not, how does the institution propose to provide new facilities?**

The space demands will be met by making space available in the present auto body facility, which is under-utilized in the late afternoon and evening hours.

Evaluation of the Proposed Program

- 1. Please name faculty committees or councils that have reviewed and approved the program herein proposed.**

The proposed program has been reviewed by the faculty and administration at Montana State University – Northern and the Great Falls College of Technology.