

ACADEMIC SENATE PROPOSAL TRACKING SHEET

(Document To Be Originated By Academic Senate Secretary On Canary Color Paper)

All proposals MUST have their originating college faculty body (Ex. Nursing, Technical Sciences, Arts & Sciences, Education) approval and must be signed by the submitter and the college chair/dean before being submitted to the academic senate secretary.

1. Submit all proposals (using the appropriate Academic Senate program/degree and/or course revision forms) to the Academic Senate Secretary.
2. The Academic Senate Secretary logs and numbers items and forwards them to the appropriate Academic Senate subcommittee(s): Teacher Education (if applicable), General Education (if applicable), or Curriculum.
3. The Academic Senate subcommittee(s) consider(s) the proposal. If approved, the proposal is forwarded to the next committee. If a committee disapproves the proposal, the originator may request that the item be forwarded to the next body for consideration. The committee will provide written rationale to the originator when a proposal is disapproved and the proposal is returned to the originator.
4. The Academic Senate considers the proposal and approves or disapproves. If approved, the proposal is forwarded to the Full Faculty for consideration. If the Academic Senate disapproves the proposal, the originator may request that the item be forwarded to the Full Faculty for consideration. The Academic Senate will provide written rationale to the originator when proposals are disapproved and the proposal is returned to the originator.
5. The Full Faculty considers academic senate approved proposals. If faculty approve, the proposal will then be forwarded to the Provost. The Provost approves or disapproves the proposal. If approved, the proposal is then forwarded to the Chancellor.
7. The Chancellor approves or disapproves the proposal.

Subcommittee and Academic Senate college representatives will notify their respective colleges' of the progress of submitted proposals or the proposal may be tracked via the web page --

<http://www.msun.edu/admin/provost/asproposals.htm>

Documentation and forms for the curriculum process is also available on the web page:

<http://www.msun.edu/admin/provost/asforms.htm>

*******(If a proposal is disapproved at any level, it is returned through the Academic Senate secretary to the Chair/Dean of the submitting college who then notifies the originator.)**

Proposal # <u>05-09</u>	Title: <u>New Mathematics Major (non-teaching)</u>
(proposal explanation, submitter and college chair/dean signatures on attached program/degree or course revision form)	

Received by ACAD Senate Forwarded to Teacher Ed Council	Date <u>12/13/05</u>	Approved _____ Disapproved _____	Signature _____ Date _____	Approved _____ Disapproved _____
Forwarded to Gen Ed Committee	_____	Approved _____ Disapproved _____	Signature _____ Date _____	Approved _____ Disapproved _____
Returned to ACAD Senate Forwarded to Curriculum Committee	Date <u>12/13/05</u>	Approved <input checked="" type="checkbox"/> _____ Disapproved _____	Signature <u>[Signature]</u> Date <u>2/17/06</u>	Approved _____ Disapproved _____
Returned to ACAD Senate for Vote	Date <u>3/11/06</u>	Approved <input checked="" type="checkbox"/> _____ Disapproved _____	Signature <u>[Signature]</u> Date <u>3/21/06</u>	Approved _____ Disapproved _____
Sent to Provost's office for Full Faculty vote Voted on at Full Faculty meeting	Date <u>3/22/06</u> <u>3/28/06</u>	Approved <input checked="" type="checkbox"/> _____ Disapproved _____	Signature <u>[Signature]</u> Date <u>3/28/06</u>	Approved _____ Disapproved _____
Forwarded to Provost for Approval/Disapproval	Date <u>2/28/06</u>	Approved _____ Disapproved _____	Signature <u>[Signature]</u> Date <u>3/29/06</u>	Approved _____ Disapproved _____
Forwarded to Chancellor for Approval/Disapproval	Date <u>3/29/06</u>	Approved _____ Disapproved _____	Signature <u>[Signature]</u> Date <u>3/30/06</u>	Approved _____ Disapproved _____
Copies sent to originating college and registrar's office C:/data/proposaltracking sheet ACAD 10 10 01	Date <u>3/30/06</u>	Approved _____ Disapproved _____	Signature _____ Date _____	Approved _____ Disapproved _____

The Mission of the Montana University System is to serve students through the delivery of high quality, accessible postsecondary educational opportunities, while actively participating in the preservation and advancement of Montana's economy and society.

VISION:

We will prepare students for success by creating an environment of ideas and excellence that nurtures intellectual, social, economic, and cultural development. We will hold academic quality to be the prime attribute of our institutions, allocating human, physical, and financial resources appropriate to our educational mission. We will encourage scientific development and technology transfer, interactive information systems, economic development and lifelong learning. We will protect academic freedom, practice collegiality, encourage diversity, foster economic prosperity, and be accountable, responsive, and accessible to the people of Montana.

GOALS:

The following five goals and subordinate objectives will guide the Montana University System in moving toward realization of its vision for the future of higher education in Montana.

- A. To provide a stimulating, responsive, and effective environment for student learning, student living, and academic achievement.**
- B. To make a high quality, affordable higher education experience available to all qualified citizens who wish to further their education and training.**
- C. To deliver higher education services in a manner that is efficient, coordinated, and highly accessible.**
- D. To be responsive to market, employment, and economic development needs of the State and the nation.**
- E. To improve the support for and understanding of the Montana University System as a leading contributor to the State's economic success and social and political well-being**

MONTANA BOARD OF REGENTS
LEVEL II REQUEST FORM

Item No.: _____ Date of Meeting: _____
Institution: Montana State University-Northern
Program Title: Mathematics major, teaching and non teaching options

Level II proposals require approval by the Board of Regents.

Level II action requested (check all that apply): Level II proposals entail substantive additions to, alterations in, or termination of programs, structures, or administrative or academic entities typically characterized by the (a) addition, reassignment, or elimination of personnel, facilities, or courses of instruction; (b) rearrangement of budgets, cost centers, funding sources; and (c) changes which by implication could impact other campuses within the Montana University System and community colleges. Board policy 303.1 indicates the curricular proposals in this category:

- 1. Change names of degrees (e.g. from B.A. to B.F.A.)
- 2. Implement a new minor or certificate where there is no major or no option in a major;
- 3. Establish new degrees and add majors to existing degrees;
- 4. Expand/extend approved mission; and
- 5. Any other changes in governance and organization as described in Board of Regents' Policy 218, such as formation, elimination or consolidation of a college, division, school, department, institute, bureau, center, station, laboratory, or similar unit.

Specify Request:

The Montana Board of Regents of Higher Education authorizes Montana State University-Northern to award the major in Mathematics with a 5-12 teaching option and a non teaching option.

The proposed major with 5-12 teaching option will prepare students who also complete the professional education core with and an endorsable major in math for employment as secondary school teachers. The proposed major with teaching option meets all state pf Montana requirements for initial secondary (grades 5-12) endorsement in mathematics, and also satisfies federal definitions of the content major in mathematics for "highly qualified" secondary teachers.

The proposed major with non teaching option shares a common core of required courses with the teaching option. This option will provide opportunities for students in Northern's Biology, Civil Engineering Technology and Business programs to improve their math qualifications, and opportunity for students who may wish to pursue post baccalaureate studies in mathematics to prepare for those studies.

MONTANA BOARD OF REGENTS

NEW ACADEMIC PROGRAM PROPOSAL SUMMARY

Institution: Montana State University-Northern
Program Title: Mathematics major with teaching and non teaching options

1. How does this program advance the campus' academic mission and fit priorities?

Teacher preparation is a major commitment for Montana State University-Northern. The institution's mission also calls for preparation of students for employment in such fields as engineering technology and business, and for providing students thorough preparation in the arts and sciences. Finally, the institution is committed to meeting the needs of its region. At present, options for study in secondary education at MSU-Northern are quite limited. The mathematics major with teaching option will provide students interested in secondary education an additional option in a field with high demand nationally; regional school administrators indicate a shortage of secondary teachers prepared in mathematics. The non teaching option in mathematics will provide students in such fields as biology, civil engineering technology, and business the opportunity to strengthen their preparation for employment in these fields. Finally, as advisory board members have reminded the institution, the availability of majors in core academic disciplines, such as mathematics, will enhance the institution's image.

2. How does this program fit the Board of Regents' goals and objectives?

Creation of the mathematics major with teaching and non teaching options at Montana State University-Northern supports the goals of student access to educational opportunity, and supports the goal of providing graduates prepared for employment in a field for which a regional shortage exists.

3. How does this program support or advance Montana's needs and interests? Highly qualified mathematics teachers are in short supply. While the need is especially acute in the state's small, rural districts, it is not confined to those districts. Because knowledge in mathematics is important to a number of fields, graduates in such areas as business, civil engineering technology and biology who also complete the non teaching mathematics option will be better prepared employees. As an example, the BRIN project, in which all of Montana's state higher education units participated several years ago, identified bioinformatics, a study requiring knowledge of both biology and mathematics, as a specific need if the state wishes to develop capabilities for bio medical research.

4. How will this program contribute to economic development in Montana? (Note projected annual economic impact both regionally and statewide. Because teaching salaries vary by district, and initial salaries for students electing the non teaching option will vary still more, projection of direct economic impact is difficult. On the conservative assumption that the majority of graduates with the teaching option will find initial employment in small school districts in the north central region, at an average yearly salary of \$25,000 for all mathematics major graduates, and projecting four graduates in the third year of the program, \$125,000 in salaries would be generated in the program's third year.

5. What is the program's planned capacity?

• Break-even point?	1 FTE students
• Enrollments / year?	5 in year 1; 12 year 2; 17 year 3
• Graduates / year?	4 year 1; 5 year 2; 6 year 3 (beginning AY 2010)
• MT jobs / year?	given the high need for math majors, all graduates would be placed

6. Resource Allocation:

• Total program budget?	\$ NA
• Faculty FTE?	3.5
• Staff FTE?	NA

7. Does this program require new resources? Yes No

If yes, what is the amount? \$ 6,400

The institution currently employs three full time tenure track faculty members in mathematics. The mathematics major will be implemented by reallocating the teaching effort of the faculty, and by employing adjunct faculty to teach developmental mathematics.. The faculty have developed a plan (attached) for teaching all courses in the proposed major on a two year cycle. The plan calls for an additional ¼ to ½ equivalent of instructional time to release full time faculty from developmental mathematics assignments to teach in the major. Montana State University-Northern compensates adjunct faculty at the rate of \$600 per credit hour. An additional nine credit hours yearly of adjunct instruction in developmental mathematics would create \$6,400 in new instructional expenditure. An additional \$1,000 in additional library costs to support the major is projected.

8. How will the campus fund the program?

The projected enrollment will support the additional expenditure required. It should also be note, that while the full major will be offered at the institution's Havre campus, the mathematics faculty have begun to put required math courses at the 100- and 200- level on line; a commitment of the current faculty. Additional revenues are projected from this environment.

9. If internal reallocation is necessary, name the sources.

Existing faculty and staff will be used to support the program. Adjunct faculty will be used to support the developmental math courses. Due to very limited options, all secondary majors in the education program are under capacity.

Explanation of the math teaching rotation

The columns A, B and C stand for generic teachers. The numbers on the far right of the sheet represent the total load for fall and spring semesters. As can be seen for 3 teachers this number should be close to 72 credits. $24 \times 3 = 72$. It alternates each year from 71 to 74 credits. Every other year, 2 credits will be adjunct or overload. The credit load for the first year of the rotation is 68 but this will be non-typical. The reason for the alternating credits is that the math major for secondary majors and the math option for non-teaching majors differ by two courses. To accommodate the needs of these two options, 3 classes will be rotated on a yearly basis.

The added cost of this rotation comes from the need to hire an adjunct instructor to teach the 093 math course. This would amount to 3-6 credits a semester. Using an adjunct professor for the 093 course would free up existing tenure-track staff to cover the required math courses. From time to time, extra adjuncts may need to be hired if all classes are running over capacity.

The addition of a $\frac{1}{4}$ to $\frac{1}{2}$ time instructor position at \$600 per credit will be the only major expense to implementing a math major.

FALL	A	B	C		SPRING	A	B	C		
MAAS106		3			116					
110	4				110	4				
110	4				110	4				APPLIED
112		3			112		3			SECONDARY
112		3			112		3			BOTH
120	3				120	3				EXPENDABLE
140		4			125	2				MAYBE
220			5		133		3			
320			3		221			5		
310			3		410			3		
total	11	13	11		total	13	9	11		68
FALL					SPRING					
106		3			116					
110	4				110	4				
110	4				110	4				
112		3			112		3			
112		3			112		3			
120	3				120	3				
140		4			125	2				
220			5		133		3			
330			3		221			5		
320			3		310			3		
total	11	13	11		total	13	12	14		74
FALL					SPRING					
106		3			116					
110	4				110	4				
110	4				110	4				
112		3			112		3			
112		3			112		3			
120	3				120	3				
140		4			125	2				
220			5		133		3			
330			3		221			5		
320			3		310			3		
total	11	13	11		total	13	12	11		71
FALL					SPRING					
106		3			116					
110	4				110	4				
110	4				110	4				
112		3			112		3			
112		3			112		3			
120	3				120	3				
140		4			125	2				
220			5		133		3			
330			3		221			5		
320			3		310			3		
total	11	13	11		total	13	12	14		74
FALL					SPRING					
106		3			116					
110	4				110	4				
110	4				110	4				
112		3			112		3			
112		3			112		3			
120	3				120	3				
140		4			125	2				
220			5		133		3			
330			3		221			5		
320			3		310			3		
total	11	13	11		total	13	12	11		71