

ACADEMIC SENATE PROPOSAL TRACKING SHEET
(Document To Be Originated By the Academic Senate Secretary On Canary Color Paper)

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| Proposal # 16-17 | Title: M 105 Contemporary Mathematics |
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(Proposal explanation, submitter and college dean signatures on attached program/degree or course revision form.)

All proposals MUST have their originating college faculty body (Ex. Arts & Sciences, Education and Nursing; Technical Sciences) approval and must be signed by the submitter and the college dean before being submitted to the Academic Senate Secretary.

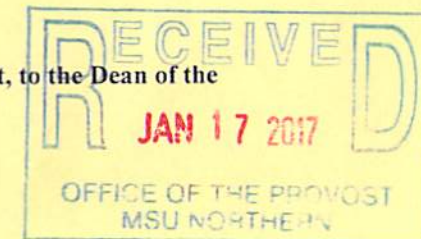
1. Submit all proposals (using the appropriate Academic Senate program/degree and/or course revision forms or General Education Inclusion form) to the Academic Senate Secretary. **NOTE: Level 1 or Level 2 forms must be submitted concurrent with this proposal where applicable. For Education proposals, PEU approval must be received prior to forwarding the proposal to the Senate.**
2. The Academic Senate Secretary logs and numbers items and forwards them to the appropriate Academic Senate subcommittee(s): General Education (if applicable), or Curriculum. A transmittal e-mail will be sent to the Recording Secretary of the receiving committee, cc Provost's Administrative Assistant, by the Academic Senate Secretary. A digital copy of the proposal will be linked on the Academic Senate Proposal page by the Academic Senate Secretary.
3. The Academic Senate subcommittee(s) consider(s) the proposal. If approved, the proposal is returned to the Academic Senate Secretary for forwarding 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, via the Academic Senate, when a proposal is disapproved and the proposal is returned to the originator. Upon completion of committee action, the proposal will be returned to the Academic Senate Secretary, and a transmittal e-mail sent by the Committee Recorder to the Senate Secretary, cc Provost's Administrative Assistant.
4. The Academic Senate considers the proposal and recommends approval or disapproval. If approved, the proposal is forwarded to the Provost for consideration. If the Academic Senate disapproves the proposal, the originator may request that the item be forwarded to the Full Faculty for consideration, utilizing the procedures set forth in the Senate Bylaws. The Academic Senate will provide written rationale to the originator when proposals are disapproved and the proposal is returned to the originator.
5. Approved proposals will be forwarded to the Provost. The Provost approves or disapproves the proposal. If approved, the proposal is then forwarded to the Chancellor. From this point forward, the Provost's Administrative Assistant will update the Proposal page on the website by contacting the webmaster.
7. The Chancellor approves or disapproves the proposal.
8. The proposal will then either be implemented or referred to MSU for further action. The tracking page on the Provost site will be updated as required.

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/senate/proposals.htm>

Documentation and forms for the curriculum process is also available on the web page:
<http://www.msun.edu/admin/provost/forms.htm>

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

See back for tracking form



| | Date | Action Taken | Signature | Date | Comments/Reason for Disapproval | Sent to | Date | Transmittal E-mail sent |
|---|----------|--|--------------------|-----------|---------------------------------|------------------|----------|-------------------------|
| *Abstract received by Senate Secretary | | Copy to Senate President. Forward to Provost. | | | | | | |
| *Provost | | <input type="checkbox"/> Abstract Approved <input type="checkbox"/> Disapproved | | | | | | |
| Received by Senate Secretary | 10/27/16 | Tracking form initiated | <i>[Signature]</i> | 10/27/16 | | Gen ED | 10/31/16 | email in my office |
| General Education Committee (if applicable) | 11/07/16 | <input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved | <i>[Signature]</i> | 11/07/16 | | D. Bradley | 11/15/16 | handed |
| Curriculum Committee (if applicable) | 12/1/16 | <input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved | <i>[Signature]</i> | 12/2/16 | | Senate | 12/2/16 | took to meeting |
| Academic Senate | 12/13/16 | <input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved | <i>[Signature]</i> | 1/10/17 | | Provost's office | 1/11/17 | in my office |
| Full Faculty (if necessary) | | <input type="checkbox"/> Approved <input type="checkbox"/> Disapproved | | | | | | |
| Provost | | <input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved | <i>[Signature]</i> | 3.15.17 | | Chancellor | 3.15.17 | |
| Chancellor | | <input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved | <i>[Signature]</i> | 3.15.2017 | | | | |
| MSU | | <input type="checkbox"/> Approved <input type="checkbox"/> Disapproved | N/A | | | | | |
| BOR | | <input type="checkbox"/> Approved <input type="checkbox"/> Disapproved | N/A | | | | | |
| NWCCU | | <input type="checkbox"/> Approved <input type="checkbox"/> Disapproved | N/A | | | | | |
| Provost | | Advise originating college and Academic Senate of status. Update Web page. | | | | | | |
| Registrar | | Catalog/Policy Manual Update | | | | | | |

NOTE: The secretary of the Academic Senate will update the Academic Senate Proposal web page from initial receipt until the proposal reaches the Provost. The Provost's Administrative Assistant will ensure that the current status of each proposal is maintained on the Academic Senate Proposal web page from that point forward.

*Abstract and pre-approval required for new programs ONLY.



MONTANA STATE UNIVERSITY NORTHERN

Academic Senate Tracking Sheet Correction Form

Date: 12-16-16

Proposal #: 16-17

Title: M105 Contemporary Mathematics

Brief description of the correction to be made (if more space is needed use the back of the sheet)

#1 & #2 are measurable -

#3 & #4 are not

Lecture hrs 3?

is there a #5?

Cont. Lect. hrs 3?

Lab cont. hrs 2?

Current Course Description (liberal arts)?

Name of Person making the correction: _____

Phone # (if more information is needed): 265-3735

Date returned back to Senate Secretary: _____

The objectives included are from the OCHE website as developed by the Math Pathways task force. cp

Charles; the Senate would like you to come to the next meeting. Jan. 10th @ 4pm. Brackman Conference Room - Debra

CEASN PROPOSAL TRACKING SHEET

(Document to Be Originated By CEASN Secretary)

1. Submit all proposals (using the appropriate Academic Senate program/degree and/or course revision forms) to the CEASN Administrative Assistant.
2. The CEASN Administrative Assistant forwards them to the appropriate CEASN Committee.

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|--------------------------------|---------------------------------------|
| Proposal Number: 2016-2017 # 3 | Title: M 105 Contemporary Mathematics |
|--------------------------------|---------------------------------------|

Date

Received by CEASN Administrative Assistant

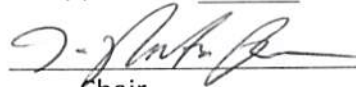
10-19-16

Forwarded to CEASN College Meeting

10-20-16

Approved

Disapproved



Chair

Date

Signature

Returned to CEASN Administrative Assistant

10-27-16

Forwarded to Dean for Signatures

10-27-16

 10-28-16

Dean

Signature

Returned to CEASN Administrative Assistant

10-27-16

Forwarded to Professional Education Unit

No

Approved

Disapproved

Signature

Date

Returned to CEASN Administrative Assistant

10-27-16

Forwarded to Academic Subcommittees

10-31-16

Course Revision Form

NEW _____ DROPPED _____ MAJOR REVISION FOR INFORMATION ONLY _____

College CEASN Program Area Mathematics Date 10.19.16

Submitter S. Norton Pease Dean Carol A. Reinhard Date 10-28-16
Signature (indicates "college" level approval)

Please provide a brief explanation & rationale for the proposed revision(s):

Please provide the following information:

College: CEASN
Program Area: Mathematics
Date: 10.19.16
Course Prefix & No.: M105

Course Title: Math for Liberal Arts
Credits: 4

Required by: Any non-stem major

Selective in: Any non-stem major
Elective in:
General Education: Yes

Lecture: 3
Lecture/Lab: 4th credit is inclusive of lab
Gradable Lab:
Contact hours lecture: 45
Contact hours lab: 30

Current Catalog Description (include all prerequisites):

M 145. Math for the Liberal Arts. 4 Credits.
This course surveys a wide variety of topics including sets and logic, mathematical patterns, number systems, number theory, algebra, geometry, probability, and statistics. The development of problem-solving skills is emphasized. Prerequisite: M111 or M 095, ACT scores 20 to 22, or university placement examination.

Proposed or New Catalog Description (include all prerequisites):

M 105 Contemporary Mathematics. 4 Credits.
This course is designed to meet the general education mathematics requirement for the liberal arts major. It surveys some of the important ideas and practical applications in mathematics and uses a variety of mathematical skills and technology to solve real problems. Topics include problem solving, financial math, mathematical modeling (linear and quadratic), and elementary statistics.

Course Outcome Objectives:

- 1 To attain some degree of mathematical literacy, including an ability to read mathematical material and write using mathematical notation correctly. To develop skills to think and reason mathematically in order to function more effectively in the modern world.
- 2 To examine ways in which mathematics is used, to follow and understand logical arguments, and to solve applied quantitative problems. This includes learning to formulate a problem precisely, to interpret solutions, and to make critical judgments in the face of competing formulations and solutions.
- 3 To understand elementary probability concepts and phenomena: including sample spaces with equally likely outcomes, the basic parameters (mean, standard deviation), the normal distribution, and a qualitative view of the Central Limit Theorem.
- 4 To understand elementary statistical concepts, such as data description, statistical estimation, randomization, and statistical inference.

To explore and examine several other aspects of contemporary mathematics. This could include, but is not limited to, management science (e.g. graph models for network problems), social choice and decision making (e.g. elections, voting, fair division, Congress apportionment), or applied geometry (e.g. symmetry, tilings, growth rates).

Additional instructional resources needed (including library materials, special equipment, and facilities). Please note: approval does not indicate support for new faculty or additional resources.

Updated 09/29/05

Request for Inclusion in the General Education Core

| Add to Category | Gen Ed Category | Area Description | Credits Required |
|-----------------|-----------------|---------------------------|------------------|
| | Category I | Communication | 6 |
| X | Category II | Mathematics | 3 |
| | Category III | Natural Sciences with lab | 6 |
| | Category IV | Social Sciences/History | 6 |
| | Category V | Cultural Diversity | 3 |
| | Category VI | Fine Arts/Humanities | 6 |
| | Category VII | Technology | 3 |

Course submitted for consideration:

| College | Subject | Number | Title | Credits |
|---------|---------|--------|--------------------------|---------|
| CEASN | M | 105 | Contemporary Mathematics | 4 |

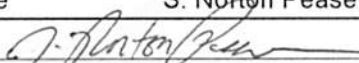
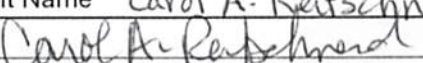
Catalog Description:

M 105 Contemporary Mathematics. 4 Credits. This course is designed to meet the general education mathematics requirement for the liberal arts major. It surveys some of the important ideas and practical applications in mathematics and uses a variety of mathematical skills and technology to solve real problems. Topics include problem solving, financial math, mathematical modeling (linear and quadratic), and elementary statistics.

Provide a detailed explanation; show evidence, and rationale meeting 80% of the objectives as directly related to the appropriate category I through IX for the proposed course inclusion.

*This course will be replacing M 145 statewide. Currently, Northern is the last ~~last~~ of Montana's schools to offer M145 as all other institutions have adopted M 105 as the replacement for Math for the Liberal Arts. This course meets all of the Gen Ed category outcomes through the following:

| | |
|---|---|
| <p>1 To attain some degree of mathematical literacy, including an ability to read mathematical material and write using mathematical notation correctly. To develop skills to think and reason mathematically in order to function more effectively in the modern world.</p> <p>2 To examine ways in which mathematics is used, to follow and understand logical arguments, and to solve applied quantitative problems. This includes learning to formulate a problem precisely, to interpret solutions, and to make critical judgments in the face of competing formulations and solutions.</p> <p>3 To understand elementary probability concepts and phenomena: including sample spaces with equally likely outcomes, the basic parameters (mean, standard deviation), the normal distribution, and a qualitative view of the Central Limit Theorem.</p> <p>4 To understand elementary statistical concepts, such as data description, statistical estimation, randomization, and statistical inference.</p> <p>To explore and examine several other aspects of contemporary mathematics. This could include, but is not limited to, management science (e.g. graph models for network problems), social choice and decision making (e.g. elections, voting, fair division, Congress apportionment), or applied geometry (e.g. symmetry, tilings, growth rates).</p> | <p>-Solve problems through mathematical reasoning using calculators and computers</p> <p>-Describe or demonstrate how mathematical models or statistical designs are used to obtain knowledge in several disciplines</p> <p>-Perform mathematical applications beyond intermediate algebra</p> <p>-Demonstrate understanding of the discipline of mathematics through multiple means of oral, written and visual assessment</p> |
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|------------|---|-------------|--|
| Print Name | S. Norton Pease | Print Name | Carol A. Reifschneider |
| Submitter |  | Chair/Dean: |  |
| | Signature | | Signature (indicates "college" level approval) |
| | | Date: | 10-23-16 |