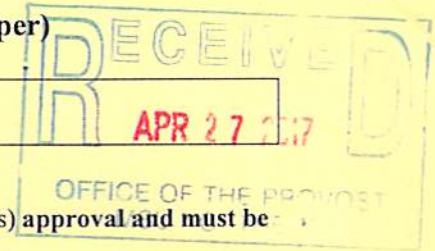# ACADEMIC SENATE PROPOSAL TRACKING SHEET
(Document To Be Originated By the Academic Senate Secretary On Canary Color Paper)

Proposal # 16·18	Title: College Algebra

(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.**
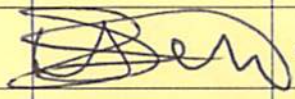
1. Submit all proposals (using the appropriate Academic Senate program/degree and/or course revision forms or General Education Inclusion form) to the Academic Senate Secretary. **NOTE: Level 1 or Level 2 forms must be submitted concurrent with this proposal where applicable. For Education proposals, 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.

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		☐ Abstract Approved ☐ Disapproved						
Received by Senate Secretary	11/13/16	Tracking form initiated	Bradley		forwarded to Provost	Terri Hull		
General Education Committee (if applicable)		☒ Approved ☐ Disapproved	L. Hildebrand	2/10/2017	approved as is	B. Ophus	2/13/17	inner office
Curriculum Committee (if applicable)	2/24/16	☒ Approved ☐ Disapproved	B. Ophus	2/24/17		Academic Senate	2/24/17	inner office
Academic Senate	3/7/17	☒ Approved ☐ Disapproved	Terri Gilbert	3/7/17		Provost office	4/4/17	inner office
Full Faculty (if necessary)		☐ Approved ☐ Disapproved						
Provost		☒ Approved ☐ Disapproved	Ben	7/12/17				
Chancellor		☒ Approved ☐ Disapproved	Gregory O. Kegl	7-17-2017				
MSU		☐ Approved ☐ Disapproved	N/A					
BOR		☐ Approved ☐ Disapproved	N/A					
NWCCU		☐ Approved ☐ 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.

Academic Senate Form 1 (Revised 3/21/2012)

MONTANA STATE UNIVERSITY NORTHERN

Academic Senate Tracking Sheet Correction Form

Date: 3/9/2017

Proposal #: 16-18

Title: College Algebra

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

_____

_____

_____

_____

_____

Name of Person making the correction: _____

Phone # (if more information is needed): ext: 3329

Date returned back to Senate Secretary: 3/10/2017

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.

Proposal Number: 2016-2017 # 4	Title: College Algebra

Date

Received by CEASN Administrative Assistant   11·21·16

Forwarded to CEASN College Meeting   11·29·16   Approved ✗   Disapproved _____
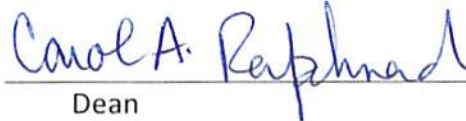
               Chair   11/30/16

               Signature   Date

Returned to CEASN Administrative Assistant   11·30·16

Forwarded to Dean for Signatures   11·30·16   _Carol A. Rafchnad_

               Dean
               Signature

Returned to CEASN Administrative Assistant   11·30·16

Forwarded to Professional Education Unit   ~~✗~~   Approved _____   Disapproved _____

               Signature   Date

Returned to CEASN Administrative Assistant   _____

Forwarded to Academic Subcommittees   _____

COURSE REVISION FORM

NEW _____ DROPPED _____ MAJOR REVISION _X___ FOR INFORMATION ONLY _____

College_Arts and Science_____ Program Area _General Educaiton_____ Date _11-21-16_

Submitter_~~Charle T. Polley~~_ Dean _~~Carol A Rexrohmend~~_ Date _11-30-16_
    Signature   Signature (indicates "college" level approval)

Please provide a brief explanation & rationale for the proposed revision(s): State is moving in the direction of not requiring pre-requisites for General Education mathematics courses. as a proactive measure we are moving ahead with this change for the benefit of our students.

Please provide the following information:
College: Arts & Science
Program Area: General Education
Date: 11/21/16
Course Prefix & No.: M121

Course Title: College Algebra
Credits: 4

Required by:

Selective in:
Elective in:
General Education: X

Lecture:
Lecture/Lab: X
Gradable Lab: Yes
Contact hours lecture: 3
Contact hours lab: 2

Current Catalog Description (include all prerequisites):

M 121. College Algebra. 3 Credits.
This course surveys a wide variety of topics including: properties and theorems of the real and complex number systems, the function concept including inverse functions, graphing techniques, linear, quadratic, polynomial, exponential and logarithmic functions, solving systems of equations in two or more variables using matrices, determinants and matrix algebra. The development of problem-solving skills is emphasized. Prerequisite: M 095.

Proposed or New Catalog Description (include all prerequisites):

M 121. College Algebra. 4 Credits.
This course surveys a wide variety of topics including: properties and theorems of the real and complex number systems, the function concept including inverse functions, graphing techniques, linear, quadratic, polynomial, exponential and logarithmic functions, solving systems of equations in two or more variables using matrices and matrix algebra. The development of problem-solving skills is emphasized.

Course Outcome Objectives:

M 121 3 credits

College Algebra

Montana State University - Bozeman

Learning Outcomes:

1. Simplify, factor, and perform any of the basic arithmetic operations on polynomials and rational expressions.
2. Perform arithmetic operations and simplify algebraic expressions with rational exponents including rationalize a denominator.
3. Solve linear, quadratic, and rational, exponential and logarithmic equations and be able to use each of these to model and solve applied problems.
4. Solve absolute value equations and inequalities and express solutions of inequalities in interval notation.
5. Identify relations vs. functions; use function notation; identify domain, range, intervals of increasing/decreasing/constant values; algebraically and graphically identify even and odd functions.
6. Find zeros, asymptotes, and domain of rational functions.
7. Evaluate and sketch graphs of piecewise functions and find their domain and range.
8. Use algebra to combine functions and form composite functions, evaluate both combined and composite functions and their graphs, and determine their domains.
9. Identify one-to-one functions, find and verify inverse functions, and sketch their graph.
10. Write logarithms as exponentials and vise versa
11. Solve exponentials and logarithms using the one to one property or inverse properties.
12. Expand and condense logarithmic expressions.

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