PROGRAM/DEGREE REQUIREMENT CHANGE (MAJOR/MINOR)

SUBMITTED BY:

Department	DMS	College/School	CNSM	

Prepared by	Leah Berman	Phone	474-7123	

Email Contact	lwberman@alaska.edu	Faculty Contact	Leah Berman	

See http://www.uaf.edu/uafgov/faculty/cd for a complete description of the rules governing curriculum & course changes.

PROGRAM IDENTIFICATION:

DEGREE PROGRAM	Mathematics	

Degree Level: (i.e., Certificate, A.A., A.A.S., B.A., B.S., M.A., M.S., Ph.D.)	BA and BS	

A. CHANGE IN DEGREE REQUIREMENTS: *(Brief statement of program/degree changes and objectives)*

Updating the elective program requirements under Option I -- Mathematics 5(b) Complete 21 additional credits of electives. … Following are some suggested elective packages.

We are updating the suggested elective packages to reflect deleted courses and to fix problems that were introduced into the catalog copy from previous catalog changes.

5. Complete one of the following options:*
Option I -- Mathematics
  1. Complete the following:
     MATH F401W--Introduction to Real Analysis--3 credits
     MATH F405W--Abstract Algebra--3 credits
     MATH F490O--Senior Seminar--2 credits
  2. Complete 21 additional credits of electives.* Acceptable elective courses include any math or statistics course at the 300-level or above, and CS F201. At least 15 credits must be math courses (for exceptions see below***). Following are some suggested elective packages.
       i. Pure math:
          MATH F305--Geometry--3 credits
          MATH F307--Discrete Mathematics--3 credits
          MATH F402--Intermediate Real Analysis--3 credits
          MATH F404--Topology--3 credits
          Additional elective credits--9 credits
      ii. Applied math:
          MATH F302--Differential Equations--3 credits
          MATH F421--Applied Analysis--4 credits
          MATH F422--Introduction to Complex Analysis--3 credits
          MATH F460--Mathematical Modeling--3 credits
          Complete two of the following:
          MATH F307--Discrete Mathematics--3 credits
          MATH F310--Numerical Analysis--3 credits
          MATH F402--Intermediate Real Analysis--3 credits
          STAT F300--Statistics--3 credits
          Additional elective credits--3 credits
     iii. Requirements for mathematics teachers (grades 7 - 12):****
          CS F201--Computer Science I--3 credits
          MATH F305-Geometry--3 credits
          MATH F306--Introduction to the History and Philosophy of Mathematics--3 credits
          STAT F300--Statistics (3)
              or MATH F371 Probability (3)
              and MATH F408 Mathematical Statistics (3)--3 - 6 credits
          Complete two of the following:
          MATH F302--Differential Equations--3 credits
          MATH F421--Applied Analysis--4 credits
          MATH F422--Introduction to Complex Analysis--3 credits
          MATH F460--Mathematical Modeling--3 credits
          Complete two of the following:
          MATH F307--Discrete Mathematics--3 credits
          MATH F310--Numerical Analysis--3 credits
          MATH F402--Intermediate Real Analysis--3 credits
          STAT F300--Statistics--3 credits
          Additional elective credits--0 -- 3 credits

5. Complete one of the following options:*
Option I -- Mathematics
   1.   Complete the following:
      MATH F401W--Introduction to Real Analysis--3 credits
      MATH F405W--Abstract Algebra--3 credits
      MATH F490O--Senior Seminar--2 credits
   2.   Complete <u>at least</u> 21 additional credits of electives.* Acceptable elective courses include any math or statistics course at the 300-level or above, and CS F201. At least 15 credits must be math courses (for exceptions see below***). Following are some suggested elective packages.
     i. Pure math:
    MATH F305--Geometry--3 credits
        ~~MATH F307--Discrete Mathematics--3 credits~~
        ~~MATH F402--Intermediate Real Analysis--3 credits~~
        <u>MATH F320--Topics in Combinatorics--3 credits or MATH F321--Number Theory--3 credits</u>
        <u>MATH F422--Complex Analysis--3 credits</u>
        MATH F404--Topology--3 credits
        Additional elective credits--9 credits
     ii. Applied math:
        MATH F302--Differential Equations--3 credits
        MATH F421--Applied Analysis--4 credits
        MATH F422--Introduction to Complex Analysis--3 credits
        MATH F460--Mathematical Modeling--3 credits
        Complete two of the following:
        MATH F307--Discrete Mathematics--3 credits
        MATH F310--Numerical Analysis--3 credits
        ~~MATH F402--Intermediate Real Analysis--3 credits~~
        STAT F300--Statistics--3 credits
        ~~Additional elective credits--3 credits~~
     iii. Requirements for mathematics teachers (grades 7 - 12):****
        CS F201--Computer Science I--3 credits
        MATH F305-<u>-</u>Geometry--3 credits
        MATH F306--Introduction to the History and Philosophy of Mathematics--3 credits
        STAT F300--Statistics ~~(3)~~ <u>-- 3 credits</u>
        or <u>both</u> MATH F371 Probability (3) and MATH F408 Mathematical Statistics (3)-- ~~3~~ 6 credits
        <u>MATH F320--Topics in Combinatorics--3 credits or MATH F321--Number Theory--3 credits or MATH F307--Discrete Mathematics--3 credits</u>
        Complete two of the following:
        MATH F302--Differential Equations--3 credits
        MATH F421--Applied Analysis--4 credits
        MATH F422--Introduction to Complex Analysis--3 credits
        MATH F460--Mathematical Modeling--3 credits
        ~~Complete two of the following:~~
        ~~MATH F307--Discrete Mathematics--3 credits~~
        MATH F310--Numerical Analysis--3 credits
       ~~MATH F402--Intermediate Real Analysis--3 credits~~
        ~~STAT F300--Statistics--3 credits~~
        ~~Additional elective credits--0 -- 3 credits~~
 <u>3. Complete a total of 39 upper-division credits, in any field, to satisfy the general university requirements for baccalaureate degrees.</u>

D. ESTIMATED IMPACT

WHAT IMPACT, IF ANY, WILL THIS HAVE ON BUDGET, FACILITIES/SPACE, FACULTY, ETC.

None.

E. IMPACTS ON PROGRAMS/DEPTS:

What programs/departments will be affected by this proposed action?
Include information on the Programs/Departments contacted (e.g., email, memo)

Only math majors.

F. IF MAJOR CHANGE - ASSESSMENT OF THE PROGRAM:

Description of the student learning outcomes assessment process.)

Should not affect assessment as these elective packages are purely suggestions: any set of math courses at the 3- and 400 level summing to 21 credits is sufficient for the major.
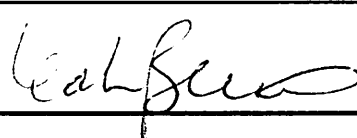
JUSTIFICATION FOR ACTION REQUESTED

The purpose of the department and campus-wide curriculum committees is to scrutinize program/degree change applications to make sure that the quality of UAF education is not lowered as a result of the proposed change. Please address this in your response. This section needs to be self-explanatory. If you drop a course, is it because the material is covered elsewhere? Use as much space as needed to fully justify the proposed change and explain what has been done to ensure that the quality of the program is not compromised as a result.

The catalog copy was not updated with the deletion of Math 402. This fixes that. In addition, Math 307 is now primarily a course for CS majors rather than math majors; the new suggested packages reflect this. Finally, errors had been introduced with a previous catalog change; this change fixes those errors, which we had not been able to fix through other means.

APPROVALS:

	Date	9/24/2012

Signature, Chair, Program/Department of:	DMS

	Date	9/26/2012

Signature, Chair, College/School Curriculum Council for:	CNSM

	Date	9/26/12

Signature, Dean, College/School of:	CNSM