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Submit originals and one copy and electronic copy to Governance/Faculty Senate Office (email electronic copy to fysenat@uaf.edu)

PROGRAM/DEGREE REQUIREMENT CHANGE (MAJOR/MINOR)

<b>SUBMITTED BY:</b>	
Department	DMS
College/School	CNSM

Prepared by	Leah Berman
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Faculty Contact	Leah Berman

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

<b>PROGRAM IDENTIFICATION:</b>	
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
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<p><b>A. CHANGE IN DEGREE REQUIREMENTS: (Brief statement of program/degree changes and objectives)</b></p> <p>Updating the elective program requirements under Option I -- Mathematics 5(b) Complete 21 additional credits of electives. ... Following are some suggested elective packages.</p> <p>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.</p>
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Dean's Office  
College of Natural Science & Mathematics

Governance

9/27/12 TP

**B. CURRENT REQUIREMENTS AS IT APPEARS IN THE CATALOG:**

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 F4900--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

C. PROPOSED REQUIREMENTS AS IT WILL APPEAR IN THE CATALOG WITH THESE CHANGES:  
(Underline new wording ~~strike through old wording~~ and use complete catalog format )

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 F320--Topics in Combinatorics--3 credits or MATH F321--Number Theory--3 credits

MATH F422--Complex 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)~~ -- 3 credits

or both MATH F371 Probability (3)

and MATH F408 Mathematical Statistics (3)-- ~~3~~ 6

credits

MATH F320--Topics in Combinatorics--3 credits or MATH F321--Number Theory--3 credits or MATH F307--Discrete Mathematics--3 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~~

**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.

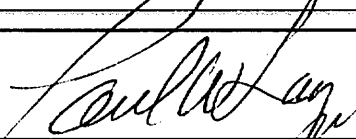
**APPROVALS:**

	Date	9/24/2012
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Signature, Chair, Program/Department of:	
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	Date	9/26/2012
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Signature, Chair, College/School Curriculum Council for:	CNSM
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	Date	9/26/12
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Signature, Dean, College/School of:	CNSM
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