Academic Program Approval

This form is a routing document for the approval of new and revised academic programs. Proposing department should complete this form. For more information, call the Faculty Senate Office at 831-2921.

Submitted by:  _Louis Rossi_________________________phone number__831-1880______

Department:  _Mathematical Sciences__________email address_rossi@math.udel.edu

Date:  24 October 2012_____________________________

Action:  Revise major

(Example:  add major/minor/concentration, delete major/minor/concentration, revise major/minor/concentration, academic unit name change, request for permanent status, policy change, etc.)

Effective term_13F____________________________________

(use format 04F, 05W)

Current degree__BA____________________________________

(Example:  BA, BACH, BACJ, HBA, EDD, MA, MBA, etc.)

Proposed change leads to the degree of:

__BA____________________________________

(Example:  BA, BACH, BACJ, HBA, EDD, MA, MBA, etc.)

Proposed name:__                                _________

Proposed new name for revised or new major / minor / concentration / academic unit
(if applicable)

Revising or Deleting:

Undergraduate major / Concentration: _BA Mathematics Education

(Example:  Applied Music – Instrumental  degree BMAS)

Undergraduate minor:

(Example:  African Studies,  Business Administration,  English, Leadership, etc.)

Graduate Program Policy statement change:__________________________________________________

(Must attach your Graduate Program Policy Statement)

Graduate Program of Study:__________________________________________________

(Example:  Animal Science:  MS  Animal Science:  PHD  Economics:  MA Economics:  PHD)

Graduate minor / concentration:__________________________________________________

Note: all graduate studies proposals must include an electronic copy of the Graduate Program Policy Document, highlighting the changes made to the original policy document.

List new courses required for the new or revised curriculum. How do they support the overall program objectives of the major/minor/concentrations)?

(Be aware that approval of the curriculum is dependent upon these courses successfully passing through
None.

**Explain, when appropriate, how this new/revised curriculum supports the 10 goals of undergraduate education:** [http://www.ugs.udel.edu/gened/](http://www.ugs.udel.edu/gened/)

Goal 1: Students in the major will attain effective skills in quantitative reasoning and information technology skills through their normal coursework in MATH and ECON.

Goal 3: Students will work and learn both independently and collaboratively as they complete the curriculum.

**Identify other units affected by the proposed changes:**
(Attach permission from the affected units. If no other unit is affected, enter “None”)

None.

**Describe the rationale for the proposed program change(s):**
(Explain your reasons for creating, revising, or deleting the curriculum or program.)

The change in the computer science requirement reflects changes in the computer science curriculum. It makes no sense to require “CISC 108 or CISC 181” because CISC 108 is now required for CISC 181. Also, the Mathematics Department believes that either CISC 106 or CISC 108 provide satisfactory exposure to computation for our Mathematics Education majors.

**Program Requirements:**
(Show the new or revised curriculum as it should appear in the Course Catalog. If this is a revision, be sure to indicate the changes being made to the current curriculum and include a side-by-side comparison of the credit distribution before and after the proposed change.)

Proposed revisions:

Replace

“CISC 108
Introduction to Computer Science I (for those with no previous experience)
or
CISC 181   Introduction to Computer Science II”

with

“CISC 106   General Computer Science for Engineers
or
CISC 108   Introduction to Computer Science I”
ROUTING AND AUTHORIZATION:  (Please do not remove supporting documentation.)

Department Chairperson ____________________________ Date__________________

Dean of College ____________________________________ Date__________________

Chairperson, College Curriculum Committee________________________ Date__________________

Chairperson, Senate Com. on UG or GR Studies________________________ Date__________________

Chairperson, Senate Coordinating Com.________________________ Date__________________

Secretary, Faculty Senate ______________________________ Date__________________

Date of Senate Resolution______________________________ Date to be Effective________

Registrar ___________________________________________ Program Code________ Date__________________

Vice Provost for Academic Affairs & International Programs________________________ Date__________________

Provost ____________________________________________ Date__________________

Board of Trustee Notification____________________________ Date__________________

Revised 02/09/2009 /khs
DEGREE: BACHELOR OF ARTS
MAJOR: MATHEMATICS EDUCATION

CURRICULUM

CREDITS

UNIVERSITY REQUIREMENTS
ENGL 110 Critical Reading and Writing
(minimum grade C-)
3
First Year Experience (FYE) 0-4
University Breadth Requirement (minimum grade C-)
Up to 3 credits from each of the University Breadth Requirement categories may be used to simultaneously satisfy the College of Arts and Sciences Breadth Requirements.
Discovery Learning Experience (DLE) 3
Multi-cultural Courses 3

COLLEGE REQUIREMENTS
Writing: (minimum grade C-) A second writing course involving significant writing experience including two papers with a combined minimum of 3,000 words to be submitted for extended faculty critique of both composition and content. Course must be taken after completion of 60 credit hours.
Foreign Language: 0-12
Completion of the intermediate-level course (107 or 112) in a given language. Number of credits needed and initial placement will depend on number of years of high school study of foreign language. Students with four or more years of high school study in a single foreign language may attempt to fulfill the requirement by taking an exemption examination.
BREADTH REQUIREMENTS (minimum grade C-)
Group A 9
Group B 9
Group C 9
Group D 10

MAJOR REQUIREMENTS
A grade of C- or better is required for major courses and EDUC courses and related work. Students lacking preparation for MATH 242 should begin with MATH 241.

MATH 210 Discrete Mathematics I 3
MATH 242 Analytic Geometry and Calculus B 4
MATH 243 Analytic Geometry and Calculus C 4
MATH 245 An Introduction to Proof 3
MATH 308 Historical Development of Mathematical Concepts and Ideas 3
MATH 349 Elementary Linear Algebra 3
MATH 350 Probability Theory and Simulation Methods 3
MATH 450 Mathematical Statistics 3
MATH 451 Abstract Algebra I 3
MATH 518 Mathematical Models and Applications 3
another Modeling course 3
MATH 540 Geometry 3

One of the following Mathematics Courses 3
MATH 302 Ordinary Differential Equations
MATH 315 Discrete Mathematics II
MATH 401 Introduction to Real Analysis
MATH 508 Introduction to Complex Variables

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DEGREE: BACHELOR OF ARTS
MAJOR: MATHEMATICS EDUCATION

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MATH 401 Introduction to Real Analysis
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Proposed revision
One of the following Computer Science Courses

CISC 108  Introduction to Computer Science I [for those with no previous experience]

or

CISC 181  Introduction to Computer Science II

PHYS 207  Introductory Physics I

MATH 279  Problem Solving Strategies I

MATH 379  Problem Solving Strategies

MATH 380  Approaches to Teaching Mathematics

MATH 382  Student Teaching Seminar: Secondary Math

EDUC 400  Student Teaching

EDUC 413  Adolescent Development and Educational Psychology

EDUC 414  Teaching Exceptional Adolescents

EDUC 419  Diversity in Secondary Education

EDUC 420  Reading in the Content Areas

To be eligible to student teach, Mathematics Education students must have a GPA of 2.5 in their mathematics major and an overall GPA of 2.5. They must also pass a teacher competency test as established by the University Council on Teacher Education. Remaining in the program is subject to periodic review of satisfactory progress and, to be admitted to EDUC 408 Student Teaching, students must have completed all the mathematics courses required in the secondary mathematics education program. Students should consult the teacher education program coordinator to obtain the student teaching application and other information concerning student teaching policies.

ELECTIVES

After required courses are completed, sufficient elective credits must be taken to meet the minimum credit requirement for the degree, with 79 credits outside of Mathematics.

CREDITS TO TOTAL A MINIMUM OF 124
Checklist for Curriculum Proposals

_X_. 1. Are all signatures on the hard copy of the proposal?

_X_. 2. Is the effective date correct?

_X_. 3. Is the rationale for the proposal consistent with the changes proposed?

_X_. 4. Does the proposed number of credits match the stated number?

_X_. 5. Have affected units been identified and contacted? Are required support letters attached?

n/a. 6. Is a resolution necessary? If so, is it attached?

(Necessary for: establishing a major; disestablishing a major; a name change to any program with permanent status; a name change to a department or college; a transfer or creation of any department; request for permanent status).

_X_. 7. Are all courses (required or referenced) in the UDSIS Inventory or in the approval process?

_X_. 8. Are all university requirements correctly specified?
   _X_. A. Breadth requirements.
   _X_. B. Multicultural requirement.
   _X_. C. Writing requirement.
   _X_. D. DLE requirement.

_X_. 9. Are all college requirements correctly specified?

_X_. 9. Is a side-by-side comparison provided?