UNIVERSITY FACULTY SENATE FORMS

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

Proposed change leads to the degree of: __BS_____
(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:_BS 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 the Course Challenge list. If there are no new courses enter "None")

None.

Explain, when appropriate, how this new/revised curriculum supports the 10 goals of undergraduate education: 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

"Either CISC 106 or CISC 108 (for those with no previous equivalent experience)
or
CISC 181"

with

"One of the following courses:
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 SCIENCE
MAJOR: MATHEMATICS EDUCATION

CURRICULUM		CREDITS
UNIVERSITY REQUIREMENTS		
ENGL 110 (minimum grade C-)	Critical Reading and Writing	3
First Year Experience (FYE)		0-4
University Breadth Requirement (minimum grade C-)		12
Discovery Learning Experience (DLE)		3
Multi-cultural Course		3
COLLEGE REQUIREMENTS		
Writing: (minimum grade C-) Second writing course taken after completion of 60 credits		3
Foreign Language 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 work in a single foreign language may attempt to fulfill this requirement in that language by taking an exemption examination.		0-12
College of Arts and Sciences Breadth Requirements: (minimum grade C-) The College Breadth Requirements are in addition to the University Breadth Requirement. Up to 3 credits from each of the University Breadth Requirement categories may be used to simultaneously satisfy these College of Arts and Sciences Breadth Requirements.		
Eighteen credits from Groups A, B and C with a minimum of six credits from each group		18
Group A: Creative Arts and Humanities		6
Group B: History and Cultural Change		6
Group C: Social and Behavioral Sciences		6
MAJOR REQUIREMENTS A grade of C- or better is required for major courses and related work.		
Mathematics Section		
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 302	Ordinary Differential Equations	3
MATH 308	Historical Developments 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	3
MATH 540	College Geometry: A Historical Approach	3
One of the following modeling classes		3
MATH 512	Contemporary Applications of Mathematics	
MATH 518	Mathematical Models and Applications	
One course from the following list		3
MATH 315	Discrete Mathematics II	
MATH 401	Introduction to Real Analysis	
MATH 503	Advanced Calculus for Applications	
MATH 508	Introduction to Complex Variables and Applications	

DEGREE: BACHELOR OF SCIENCE
MAJOR: MATHEMATICS EDUCATION Proposed revision

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COMPUTER AND INFORMATION SCIENCES		
Either **CISC 106** or **CISC 108** (for those with no previous equivalent experience) or **CISC 181**		3
SCIENCE		
A two-semester, 8 credit sequence of laboratory science (courses designed for non-majors in a discipline are not appropriate, except for **CHEM 103**/**CHEM 104**)		8
PROFESSIONAL DEVELOPMENT		
MATH 279	Problem Solving Strategies	1
MATH 379	Problem Solving Strategies	1
MATH 380	Approaches to Teaching Mathematics	3
MATH 382	Student Teaching Seminar in Secondary Math	2
EDUC 400	Student Teaching	9
EDUC 413	Adolescent Development and Educational Psychology	4
EDUC 414	Teaching Exceptional Adolescents	3
EDUC 419	Diversity in Secondary Education	3
EDUC 420	Reading in the Content Areas	1
Nine additional credits in mathematics or in related disciplines at the 300 level or above		9
Courses not approved for math majors cannot be counted towards these 9 additional credits. Non mathematics courses can be in CISC, ECON, PHYS and STAT from an approved list maintained by the Department of Mathematical Sciences		
CREDITS TO TOTAL A MINIMUM OF		**124**

COMPUTER AND INFORMATION SCIENCES		
Either CISC 106 or CISC 108 (for those with no previous equivalent experience)		
~~CISC 181~~	One of the following courses: CISC 106 General Computer Science for Engineers or CISC 108 Introduction to Computer Science I	3
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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?