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: Yuk-J Leung phone number X-1881

Department: Mathematical Sciences email: yleung@math.udel.edu

Action: Minor revision of major requirements

(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 10F (use format 04F, 05W)

Current degree BA in Mathematics Education

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

Proposed change leads to the degree of: BA in Mathematics Education

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

Proposed name: N/A

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

Revising or Deleting:

Undergraduate major / Concentration: Mathematics Education BA XMS

(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”)

There are no new courses required. We are allowing CISC 106 as an extra alternative course to CISC 108 or 181. See attached statement from the CISC Chair

**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/)

**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 old CISC 105 has been de-activated. The Computer Science Department has set up Cisc 106 or 108 as new substitutes

**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.)

The alternate course CISC 106 is printed in blue ink.

**ROUTING AND AUTHORIZATION:** (Please do not remove supporting documentation.)

Department Chairperson ___________________________ Date 5/5/10

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 10/23/2007 /khs
Proposed Change on BA in Mathematics Education

Note on: side by side comparison
only CISC 106 is added as an alternate to CISC 108

DEGREE: BACHELOR OF ARTS
MAJOR: MATHEMATICS EDUCATION

CURRICULUM
CREDITS

UNIVERSITY REQUIREMENTS
ENGL 110 Critical Reading and Writing 3
(minimum grade C-)

First Year Experience (FYE) 0-4

Discovery Learning Experience (DLE) 3

Multi-cultural Courses 3

COLLEGE REQUIREMENTS
Writing: (minimum grade C-) 3 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. This 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 work in a single foreign language may attempt to fulfill the requirement by taking an exemption examination.

BREADTH REQUIREMENTS
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
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 242</td>
<td>Analytic Geometry and Calculus B</td>
<td>4</td>
</tr>
<tr>
<td>MATH 243</td>
<td>Analytic Geometry and Calculus C</td>
<td>4</td>
</tr>
<tr>
<td>MATH 245</td>
<td>An Introduction to Proof</td>
<td>3</td>
</tr>
<tr>
<td>MATH 308</td>
<td>Historical Development of Mathematical Concepts and Ideas</td>
<td>3</td>
</tr>
<tr>
<td>MATH 349</td>
<td>Elementary Linear Algebra</td>
<td>3</td>
</tr>
<tr>
<td>MATH 350</td>
<td>Probability Theory and Simulation Methods</td>
<td>3</td>
</tr>
<tr>
<td>MATH 450</td>
<td>Mathematical Statistics</td>
<td>3</td>
</tr>
<tr>
<td>MATH 451</td>
<td>Abstract Algebra I</td>
<td>3</td>
</tr>
<tr>
<td>MATH 518</td>
<td>Mathematical Models and Applications</td>
<td>3</td>
</tr>
<tr>
<td>MATH 540</td>
<td>Geometry</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>or another Modeling course</td>
<td></td>
</tr>
<tr>
<td></td>
<td>One of the following Mathematics Courses</td>
<td>3</td>
</tr>
<tr>
<td>MATH 302</td>
<td>Ordinary Differential Equations</td>
<td></td>
</tr>
<tr>
<td>MATH 315</td>
<td>Discrete Mathematics II</td>
<td></td>
</tr>
<tr>
<td>MATH 401</td>
<td>Introduction to Real Analysis</td>
<td></td>
</tr>
<tr>
<td>MATH 508</td>
<td>Introduction to Complex Variables</td>
<td></td>
</tr>
<tr>
<td></td>
<td>One of the following Computer Science Courses</td>
<td>3</td>
</tr>
<tr>
<td>CISC 106</td>
<td>General Computer Science for Engineers</td>
<td></td>
</tr>
<tr>
<td>or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CISC 108</td>
<td>Introduction to Computer Science I</td>
<td></td>
</tr>
<tr>
<td>or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CISC 181</td>
<td>Introduction to Computer Science II</td>
<td></td>
</tr>
<tr>
<td>PHYS 207</td>
<td>Introductory Physics I</td>
<td>4</td>
</tr>
<tr>
<td>MATH 279</td>
<td>Problem Solving Strategies I</td>
<td>1</td>
</tr>
<tr>
<td>MATH 379</td>
<td>Problem Solving Strategies</td>
<td>1</td>
</tr>
<tr>
<td>MATH 380</td>
<td>Approaches to Teaching Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>MATH 382</td>
<td>Student Teaching Seminar: Secondary Math</td>
<td>2</td>
</tr>
<tr>
<td>EDUC 400</td>
<td>Student Teaching</td>
<td>9</td>
</tr>
<tr>
<td>EDUC 413</td>
<td>Adolescent Development and Educational Psychology</td>
<td>4</td>
</tr>
<tr>
<td>EDUC 414</td>
<td>Teaching Exceptional Adolescents</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 419</td>
<td>Diversity in Secondary Education</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 420</td>
<td>Reading in the Content Areas</td>
<td>1</td>
</tr>
</tbody>
</table>

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 400 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
DEGREE: BACHELOR OF ARTS
MAJOR: MATHEMATICS EDUCATION

CURRICULUM

UNIVERSITY REQUIREMENTS
ENGL 110 Critical Reading and Writing
(minimum grade C-)
3

First Year Experience (FYE)
0-4

Discovery Learning Experience (DLE)
3

Multi-cultural Courses
3

COLLEGE REQUIREMENTS
Writing: (minimum grade C-) 3 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. This 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 work in a single foreign language may attempt to fulfill the requirement by taking an exemption examination.

BREADTH REQUIREMENTS
Group A 9
Group B 9
Group C 9
Group D 10

MAJOR REQUIREMENTS
2009-2010 UD Catalog
2009-2010 Undergraduate Programs
College of Arts and Sciences
Mathematical Sciences
BACHELOR OF ARTS - MATHEMATICS EDUCATION

Academic Year: 2009-2010

DEGREE: BACHELOR OF ARTS
MAJOR: MATHEMATICS EDUCATION

CURRICULUM

UNIVERSITY REQUIREMENTS

ENGL 110 Critical Reading and Writing
(minimum grade C-)

First Year Experience (FYE)

Discovery Learning Experience (DLE)

Multi-cultural Courses

CREDITS

3

0-4

3

3

COLLEGE REQUIREMENTS

Writing: (minimum grade C-) 3 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. This 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 work in a single foreign language may attempt to fulfill the requirement by taking an exemption examination.

BREADTH REQUIREMENTS

Group A
Group B
Group C
Group D

9
9
9
10

MAJOR REQUIREMENTS