

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 BS in Mathematics and Economics
(Example: BA, BACH, BACJ, HBA, EDD, MA, MBA, etc.)

Proposed change leads to the degree of: **BS in Mathematics and Economics**
(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 and Economics- BS MAEC**
(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/>

Identify other units affected by the proposed changes:

(Attach permission from the affected units. If no other unit is affected, enter "None")

N/A

Describe the rationale for the proposed program change(s):

(Explain your reasons for creating, revising, or deleting the curriculum or program.)

1. UNIV 101 has been added as an alternate to MATH 268 for the required FYE. The reason is that we do not have enough instructors to teach MATH 268.
2. 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.)

All the alternate courses have been printed in blue ink.

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

Department Chairperson John M 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 BS in Mathematics and Economics

Note on: side by side comparison

**UNIV 101 is added as alternate to MATH 268 for FYE and
CISC 106 as an alternate to CISC 108.**

DEGREE: BACHELOR OF SCIENCE
MAJOR: MATHEMATICS AND ECONOMICS

CURRICULUM	CREDITS
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UNIVERSITY REQUIREMENTS

ENGL 110 Critical Reading and Writing (minimum grade C-)	3
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First Year Experience (FYE)	0-4
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Discovery Learning Experience (DLE)	3
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Multi-cultural Courses	3
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COLLEGE REQUIREMENTS

Writing: (minimum grade C-)	3
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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.

ENGL 312 Written Communications in Business (or other approved second writing course including MATH 308 or MATH 512)	3
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BREADTH REQUIRMENTS

A total of eighteen credits from Groups A, B and C is required with six credits from each group18
The six credits from each group could be from the same area.

Group A:	6
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Group B:	6
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Group C:	6
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MAJOR REQUIREMENTS

A grade of C- or better is required for major courses and related work. Students lacking adequate preparation for MATH 242 should begin with MATH 241. Students must take a minimum of 39 credits in Mathematics and Economics at the 300-level or above. MATH 308, MATH 379, MATH 380 and MATH 382 are not applicable.

Mathematics Section

MATH 242 Analytic Geometry and Calculus B	4
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MATH 243 Analytic Geometry and Calculus C	4
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MATH 268 Perspectives on Mathematics (FYE)	1
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or		
UNIV 101		
MATH 302	Ordinary Differential Equations	3
MATH 349	Elementary Linear Algebra	3
MATH 529	Fundamentals of Optimization	3
MATH 530	Applications of Mathematics in Economics	3

One of the following 3

MATH 210 Discrete Mathematics I

or

MATH 230 Finite Mathematics with Applications

One of the following options (A or B, 6 credits total)

Option A

MATH 350 Probability Theory and Simulation Methods 3

and

MATH 450 Mathematical Statistics 3

Option B

MATH 201 Introduction to Statistical Methods I 3

and

MATH 202 Introduction to Statistical Methods II 3

One of the following options (C or D, 6 credits total)

Option C

MATH 245 An Introduction to Proof 3

and

MATH 401 Introduction to Real Analysis 3

Option D

One of the following three courses 3

MATH 426 Numerical Analysis and Algorithmic Computations

MATH 503 Advanced Calculus for Applications

MATH 512 Contemporary Application of Mathematics and Modeling

Students intending to pursue a graduate education in financial mathematics should select at least MATH 210, Options A and C. Students intending to go into actuarial sciences should select Option A.

Economics Section

ECON 301 Quantitative Microeconomic Theory 3

(prerequisites: ECON 151 and MATH 241)

ECON 303 Intermediate Macroeconomic Theory 3

(prerequisites: ECON 152)

ECON 422 Econometric Methods and Models I 3

ECON 423 Econometric Methods and Models II 3

One of the following 3

ECON 406 Markets: Information and Uncertainty
ECON 426 Mathematical Economic Analysis

One of the following 3

ECON 302 Banking and Monetary Policy
ECON 430 Advanced Macroeconomic Theory
ECON 443 International Monetary Economics
ECON 471 Futures and Options Markets
FINC 311 Principles of Finance

One of the following Computer Science courses 3

CISC106 General Computer Science for Engineers
or

CISC 108 Introduction to Computer Science I

or

CISC 181 Introduction to Computer Science II

Any substitutions must be approved by the department Undergraduate Studies Committee.

ELECTIVES

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

CREDITS TO TOTAL A MINIMUM OF 124

2009-2010 UD Catalog ->
 2009-2010 Undergraduate Programs ->
 College of Arts and Sciences ->
 Mathematics and Economics ->
 BACHELOR OF SCIENCE - MATHEMATICS AND ECONOMIC

Academic Year: **2009-2010** ▼

DEGREE: BACHELOR OF SCIENCE
MAJOR: MATHEMATICS AND ECONOMIC

CURRICULUM	CREDITS
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.	
ENGL 312 Written Communications in Business (or other approved second writing course including MATH 308 or MATH 512)	3
BREADTH REQUIRMENTS	
A total of eighteen credits from Groups A, B and C is required with six credits from 18 each group	
The six credits from each group could be from the same area.	
Group A:	6
Group B:	6
Group C:	6
MAJOR REQUIREMENTS	

A grade of C- or better is required for major courses and related work. Students lacking adequate preparation for MATH 242 should begin with MATH 241. Students must take a minimum of 39 credits in Mathematics and Economics at the 300-level or above. MATH 308, MATH 379, MATH 380 and MATH 382 are not applicable.

Mathematics Section

MATH 242	Analytic Geometry and Calculus B	4
MATH 243	Analytic Geometry and Calculus C	4
MATH 268	Perspectives on Mathematics	1
MATH 302	Ordinary Differential Equations	3
MATH 349	Elementary Linear Algebra	3
MATH 529	Fundamentals of Optimization	
MATH 530	Applications of Mathematics in Economics	3

One of the following 3

MATH 210 Discrete Mathematics I

or

MATH 230 Finite Mathematics with Applications

One of the following options (A or B, 6 credits total)

Option A

MATH 350 Probability Theory and Simulation Methods 3

and

MATH 450 Mathematical Statistics 3

Option B

MATH 201 Introduction to Statistical Methods I 3

and

MATH 202 Introduction to Statistical Methods II 3

One of the following options (C or D, 6 credits total)

Option C

MATH 245 An Introduction to Proof 3

and

MATH 401 Introduction to Real Analysis 3

Option D

One of the following three courses 3

MATH 426 Numerical Analysis and Algorithmic Computations

MATH 503 Advanced Calculus for Applications 3

MATH 512 Contemporary Application of Mathematics and Modeling

Students intending to pursue a graduate education in financial mathematics should select at least MATH 210, Options A and C. Students intending to go into actuarial sciences should select Option A.

Economics Section

ECON 301 Quantitative Microeconomic Theory 3

(prerequisites: ECON 151 and MATH 241)

ECON 303	Intermediate Macroeconomic Theory	3
(prerequisites: ECON 151 and ECON 301)		
ECON 422	Econometric Methods and Models I	3
ECON 423	Econometric Methods and Models II	3
One of the following		3
ECON 406	Markets: Information and Uncertainty	
ECON 426	Mathematical Economic Analysis	
One of the following		3
ECON 302	Banking and Monetary Policy	
ECON 430	Advanced Macroeconomic Theory	
ECON 443	International Monetary Economics	
ECON 471	Futures and Options Markets	
FINC 311	Principles of Finance	
One of the following Computer Science courses		3
CISC 108	Introduction to Computer Science I	
or		
CISC 181	Introduction to Computer Science II	

Any substitutions must be approved by the department Undergraduate Studies Committee.

ELECTIVES

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

CREDITS TO TOTAL A MINIMUM OF 124

The University reserves the right to change its policies, rules, regulations, requirements for graduation, course offerings and any other contents of this catalog at any time.