LSC Use Only No:	LSC Action-Date:	UWUCC USE Only No.	UWUCC Action-Date:	Senate Action Date:
		05-22b	Appr 11/24/06	Appr 2/28/06

Curriculum Proposal Cover Sheet - University-Wide Undergraduate Curriculum Committee

Contact Person	Email Address
Gary Stoudt	gsstoudt@iup.edu
Proposing Department/Unit	**Phone**
Mathematics	7-2608

Check all appropriate lines and complete information as requested. Use a separate cover sheet for each course proposal and for each program proposal.

1. Course Proposals (check all that apply)

_____New Course _____Course Prefix Change _____Course Deletion

_____Course Revision _____Course Number and/or Title Change ____Catalog Description Change

***Current* Course prefix, number and full title**	***Proposed* course prefix, number and full title, if changing**

2. Additional Course Designations: check if appropriate

_____ This course is also proposed as a Liberal Studies Course. _____ Other: (e.g., Women's Studies, Pan-African)

_____ This course is also proposed as an Honors College Course.

3. Program Proposals __X__Catalog Description Change __X__Program Revision

_____New Degree Program _____Program Title Change _____Other

_____New Minor Program _____New Track

Bachelor of Science Applied Mathematics ***Current* program name**	***Proposed* program name, if changing**

4. Approvals

		Date
Department Curriculum Committee Chair(s)	Indeed (Ed)	9-29-05
Department Chair(s)	Gary Stoudt	9-30-05
College Curriculum Committee Chair		10-03-05
College Dean	John D. Ebert	9-30-05
Director of Liberal Studies *		
Director of Honors College *		
Provost *		
Additional signatures as appropriate:		
(include title)		
UWUCC Co-Chairs	Gail S Sechrist	1-24-06

* where applicable

II. Description of Curriculum Change

1. Revised Catalog Description

Bachelor of Science – Applied Mathematics

Liberal Studies: As outlined in Liberal Studies section			54
With the following specifications:			
Mathematics: MATH 123			
Liberal Studies Electives: 9cr, no courses with MATH prefix			
Major:			36-37
Required Courses:			
MATH 124	Calculus II for Physics, Chemistry, and Mathematics	4cr	
MATH 171	Introduction to Linear Algebra	3cr	
MATH 216	Probability and Statistics for Natural Sciences	4cr	
MATH 241	Differential Equations	3cr	
MATH 271	Introduction to Mathematical Proofs I	3cr	
MATH 272	Introduction to Mathematical Proofs II	3cr	
MATH 480	Senior Seminar	1cr	
Controlled Electives: (1)			
Two courses from the following: MATH 371, 421, 422, 423, 424, 427, 476, 477		6cr	
One of the following two-course sequences: MATH 342/MATH 447 or COSC 451 or MATH 451; MATH 363-364; MATH 445-446		6-7cr	
A minimum of 3 additional cr from the list of controlled electives above or the following: MATH 353, 465, 481		3cr	
Other Requirements:			6-12
Computer Science:			
COSC 110	Problem Solving and Structured Programming	3cr	
COSC 250	Introduction to Numerical Methods	3cr	
Foreign Language Intermediate Level (2)		0-6cr	
Free Electives:			17-24
Total Degree Requirements:			120

(1) A student may select courses to fulfill requirements for specialized track.
Actuarial/Statistics: MATH 363, 364, 366, 371, 421, 446, 465
Math Analyst/Engineering: MATH 342/447, COSC 451, MATH 371, 423, 451
Operations Research: MATH 371, 421, 445/446, 447

(2) Intermediate-level Foreign Language may be included in Liberal studies electives.

2a. Summary of Changes: Underlined items will be changed; **bold** items will be added.

Current				**Proposed**			
Bachelor of Science – Applied Mathematics				Bachelor of Science – Applied Mathematics			
Liberal Studies: As outlined in Liberal Studies section with the following specifications:			54	Liberal Studies: As outlined in Liberal Studies section with the following specifications:			54
Mathematics: MATH 123				Mathematics: MATH 123			
Liberal Studies Electives: 9cr, no courses with MATH prefix				Liberal Studies Electives: 9cr, no courses with MATH prefix			
Major:			36-37	Major:			36-37
Required Courses:				Required Courses:			
MATH 124	Calculus II for Physics, Chemistry, and Mathematics	4cr		MATH 124	Calculus II for Physics, Chemistry, and Mathematics	4cr	
MATH 171	Introduction to Linear Algebra	3cr		MATH 171	Introduction to Linear Algebra	3cr	
MATH 216	Probability and Statistics for Natural Sciences	4cr		MATH 216	Probability and Statistics for Natural Sciences	4cr	
MATH 241	Differential Equations	3cr		MATH 241	Differential Equations	3cr	
MATH 271	Introduction to Mathematical Proofs I	3cr		MATH 271	Introduction to Mathematical Proofs I	3cr	
MATH 272	Introduction to Mathematical Proofs II	3cr		MATH 272	Introduction to Mathematical Proofs II	3cr	
MATH 480	Senior Seminar	1cr		MATH 480	Senior Seminar	1cr	
Controlled Electives: (1)				Controlled Electives: (1)			
Two courses from the following:		6cr		Two courses from the following:		6cr	
MATH 371, 421, 422, 423, 424, 427, 476, 477				MATH 371, 421, 422, 423, 427, 476, 477			
One of the following two-course sequences:		6-7 cr		One of the following two-course sequences:		6-7 cr	
MATH 342/COSC 450 or COSC 451 or MATH 451; MATH 363-364; MATH 445-446				MATH 342/**447** or COSC 451 or MATH 451; MATH 363-364; MATH 445-446			
A minimum of 3 additional cr from the list of controlled electives above of the following:				A minimum of 3 additional cr from the list of controlled electives above of the following:			
MATH 353, 425, 447, 465, 481		3cr		MATH 353, 465, 481		3cr	
Other Requirements:			6-12	Other Requirements:			6-12
Computer Science:				Computer Science:			
COSC 110	Problem Solving and Structured Programming	3cr		COSC 110	Problem Solving and Structured Programming	3cr	
COSC 250	Introduction to Numerical Methods	3cr		COSC 250	Introduction to Numerical Methods	3cr	
Foreign Language Intermediate Level (2)		0-6 cr		Foreign Language Intermediate Level (2)		0-6 cr	

Free Electives:	17-24	Free Electives:	17-24
Total Degree Requirements	120	Total Degree Requirements	120
(1) A student may select courses to fulfill requirements for a specialized track.		(1) A student may select courses to fulfill requirements for a specialized track.	
Actuarial/Statistics: MATH 363, 364, 366, 371, 421, 446, 465		Actuarial/Statistics: MATH 363, 364, 366, 371, 421, 446, 465	
Math Analyst/Engineering: MATH 342/COSC 450, COSC 451, MATH 371, 423, 447, 451		Math Analyst/Engineering: MATH 342/**447**, COSC 451, MATH 371, 423, 451	
Operations Research: MATH 371, 421, 445/446, 447		Operations Research: MATH 371, 421, 445/446, 447	
(2) Intermediate-level Foreign Language may be included in Liberal Studies electives.		(2) Intermediate-level Foreign Language may be included in Liberal Studies electives.	

3. Rationale for Change

The Mathematics Department is proposing three minor changes. We propose that under Controlled Electives, one of the two course sequences "MATH 342/COSC 450 or COSC 451 or MATH 451" be replaced with "MATH 342/447 or COSC 451 or MATH 451." We are also proposing to remove MATH 424 from the list of Controlled electives and MATH 425 from the list of three additional credits the students can take.

Recently (December 7, 2004) the Senate approved revisions to the course MATH 447 Modeling and Simulation. This course (as MATH 547) will become part of our graduate course offerings, and we would like to make it an important part of our undergraduate offerings as well. We believe that MATH 342/447 will make a good sequence in applied mathematics: MATH 342 Advanced Mathematics for Applications considers mathematics applied to science, while MATH 447 looks at applications in other fields. This makes MATH 342/447 a better sequence than MATH 342/COSC 450. In addition, COSC 450 is rarely offered due to low student demand.

We are proposing to remove MATH 424 from the list of controlled electives due to the fact that the course is rarely, if ever, offered. We are proposing to remove MATH 425 from the list of additional electives due to the fact that it may not be offered since its dual level partner MATH 525 is no longer part of our graduate program.

III. Implementation

1. How will the proposed revision affect students already in the existing program?

Since COSC 450 is rarely offered, this change actually gives students in the program more choices when it comes to Controlled Electives. Any student who has already taken the MATH 342/COSC 450 sequence (we do not believe there are any) will have that sequence honored.

2. Are faculty resources adequate?

Faculty resources are adequate. MATH 447/547 will be offered in our current graduate course rotation.

3. Are other resources adequate?

Resources are adequate.

4. Do you expect an increase or decrease in the number of students as a result of these revisions? If so, how will the department adjust?

We do not expect any change in the enrollment in the program. We do expect an increase in the enrollment in the class MATH 447/547, but not beyond what the Department can handle.

IV. Periodic Assessment

This revision is due to periodic assessment of the B.S. Applied Mathematics program. Students were having difficulty completing a sequence with MATH 342, which we consider an important course. We wanted to have a two-course sequence option for these students.

1. The Mathematics Department evaluates this program as part of the course MATH 480 Senior Seminar, whose course description reads (in part) "To assess the effectiveness of the mathematics curriculum…." Students participate in discussions of the program, complete surveys, and take the Educational Testing Service (ETS) Mathematics subject test.

2. MATH 480 is offered every spring semester

3. The Mathematics Department is its own evaluating entity, along with ETS. There is no accrediting body for mathematics programs.

V. Course Proposals

Not applicable.

VI. Letters of Support or Acknowledgement

This proposed change affects the Computer Science Department, since it will reduce the need for their course COSC 450 Applied Numerical Methods.

From: Jim Wolfe [jlwolfe@iup.edu]
Sent: Monday, March 28, 2005 9:26 AM
To: Gary Stoudt
Subject: Re: BS Applied Math Revision

Gary,

The Computer Science Department is happy to support the revision of the BS in Applied Mathematics. The removal of COSC 450 as an option will have no effect on our course offerings. Due to very low student interest, we have not been able to offer COSC 450 for many years. Thus, it makes sense to eliminate it as an option because COSC 450 is not truly available for students to take.

Jim