LSC Use Only No:	LSC Action-Date:	UWUCC USE Only No.	UWUCC Action-Date:	Senate Action Date:
		06 - 31a	App. 3-6-07	App. 3-27-07

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.

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

_____ Other: (e.g., Women's Studies, Pan-African)

3. Program Proposals

_____New Degree Program _____Catalog Description Change _X_Program Revision

_____New Minor Program _____Program Title Change _____Other

_____New Track

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

4. Approvals		**Date**
Department Curriculum Committee Chair(s)	Frederic E Colman	11-21-06
Department Chair(s)	Gary Stoudt	11-21-06
College Curriculum Committee Chair	[signature]	01-06-07
College Dean	Gerald Burrah	2/2/07
Director of Liberal Studies *		
Director of Honors College *		
Provost *	[signature]	7/10/07
Additional signatures as appropriate: (include title)		
UWUCC Co-Chairs	Gail S Sechrist	3-6-07

* where applicable

Received
FEB - 2 2007
Liberal Studies

1. Revised Program

Bachelor of Science—Mathematics

Liberal Studies: As outlined in Liberal Studies section with the following specifications: **Mathematics:** MATH 125 **Liberal Studies Electives**: 9cr, no courses with MATH prefix			53
Major:			37-38
Required Courses:			
MATH 126	Calculus II/Physics, Chemistry, Mathematics	3cr	
MATH 171	Introduction to Linear Algebra	3cr	
MATH 216	Probability and Statistics for Natural Sciences	3cr	
MATH 225	Calculus III/Physics, Chemistry, Mathematics	3cr	
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:			
Four courses from the following: MATH 371, 421, 422, 423, 427, 476, 477		12cr	
A minimum of 3 additional cr from the list above or the following: MATH 342, 350, 353, 355, 363, 364, 445, 446, 447, 465, 481		3-4cr	
Other Requirements:			3-9
Computer Science:			
COSC 110	Problem Solving and Structured Programming	3cr	
Foreign Language Intermediate Level (1)		0-6cr	
Free Electives:			20-27
Total Degree Requirements:			120

(1) Intermediate-level foreign language may be included in Liberal Studies elective.

2. Summary of Changes

a. Comparison Table

Current Program: Bachelor of Science—Mathematics		**Proposed Program: Bachelor of Science – Mathematics**	
Liberal Studies: As outlined in Liberal Studies section with the following specifications: **Mathematics:** MATH 123 **Liberal Studies Electives:** 9cr, no courses with MATH prefix	**54**	**Liberal Studies:** As outlined in Liberal Studies section with the following specifications: **Mathematics:** MATH 125 **Liberal Studies Electives:** 9cr, no courses with MATH prefix	**53**
Major: **Required Courses:** MATH 124 Calculus II/Physics, Chemistry, and Mathematics MATH 171 Introduction to Linear Algebra MATH 216 Probability and Statistics for Natural Sciences MATH 241 Differential Equations MATH 271 Introduction to Mathematical Proofs I MATH 272 Introduction to Mathematical Proofs II MATH 480 Senior Seminar	**36-37** 4cr 3cr 4cr 3cr 3cr 1cr	**Major:** **Required Courses:** MATH 126 Calculus II/Physics, Chemistry, Mathematics MATH 171 Introduction to Linear Algebra MATH 216 Probability and Statistics for Natural Sciences MATH 225 Calculus III/Physics, Chemistry, Mathematics MATH 241 Differential Equations MATH 271 Introduction to Mathematical Proofs I MATH 272 Introduction to Mathematical Proofs II MATH 480 Senior Seminar	**37-38** 3cr 3cr 3cr 3cr 3cr 3cr 3cr 1cr
Controlled Electives: (1) Four courses from the following: MATH 371, 421, 422, 423, 424, 427, 476, 477 A minimum of 3 additional cr from the list of controlled electives above or the following: MATH 342, 350, 353, 355, 363, 364, 425, 445, 446, 447, 465, 481	 12cr 3-4cr	**Controlled Electives:** (1) Two courses from the following: MATH 371, 421, 422, 423, 427, 476, 477 A minimum of 3 additional cr from the list above or the following: MATH 342, 350, 353, 355, 363, 364, 445, 446, 447, 465, 481	 12cr 3-4cr
Other Requirements: **Computer Science:** COSC 110 Problem Solving and Structured Programming Foreign Language Intermediate Level (2) **Free Electives:** **Total Degree Requirements:**	**3-9** 3cr 0-6cr **20-27** **120**	**Other Requirements:** **Computer Science:** COSC 110 Problem Solving and Structured Programming Foreign language intermediate level (1) **Free Electives:** **Total Degree Requirements:**	**3-9** 3cr 0-6cr **20-27** **120**
(1) Intermediate-level Foreign Language may be included in Liberal Studies elective.		(1) Intermediate-level foreign language may be included in Liberal Studies elective.	

2. Summary of Changes
b. Associated course changes

The two-course, 8 credit calculus sequence MATH 123 and MATH 124 is being replaced with the three-course, 9 credit calculus sequence MATH 125, 126, 225. This changes the Liberal Studies Mathematics requirement to MATH 125, reducing the credits from 4cr to 3cr. MATH 126 and 225 are added as requirements and the course MATH 216 is reduced from 4 to 3 credits.

We are removing MATH 424 and MATH 425 from the list of controlled electives.

3. Rationale

The Mathematics Department has eliminated the two-course, 8 credit calculus sequence MATH 123 and MATH 124 and replaced it with a three-course, 9 credit calculus sequence MATH 125, 126, 225. The Mathematics Department also revised the MATH 216 course from 4 credits to 3. These changes are what is represented in the program revision.

MATH 425 is no longer offered and MATH 424 is rarely offered.

III. Implementation

1. This change will take effect with the 2007 incoming freshman class. The Mathematics Department will continue to offer MATH 123 and MATH 124 as needed for students currently operating under the old program.

2. Faculty resources are adequate.

3. Other resources are adequate. The Communications Media Department supports the change.

4. We do not expect these revisions to change the number of students in the program.

IV. Periodic Assessment

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.

4. The Mathematics Department also has a new assessment plan ready to begin in Spring, 2007. The goals of the program include retention of concepts and skills in calculus, linear algebra, and probability and statistics; the ability to write a mathematical proof; the ability to effectively communicate mathematics; the ability to apply mathematics to analyze/model/solve applications. We will also be monitoring student perceptions and attitudes about mathematics. All this will be accomplished with the usual course grades and current surveys. We will also be adding a comprehensive examination for

all majors after completing the core mathematics courses. This exam will be for assessing the program, not the students.

We are developing a rubric to grade in-class presentations and we will be looking at how to incorporate class work and/or projects into existing venues for student presentations such as IUP's Research Day.

The student perception and attitude survey will be given to all students in the science calculus sequence and then again to beginning juniors, and finally to graduating seniors. Once we get a handle on the kind of data we will have gathered from all these sources, we will be able to see what questions this asks and answers about our program.

V. Course Proposals

MATH 125, 126, 225 and 216 proposals have been submitted separately.

VI. Letters of Support or Acknowledgement

None