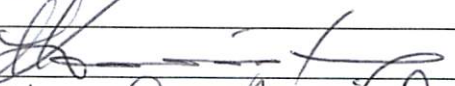
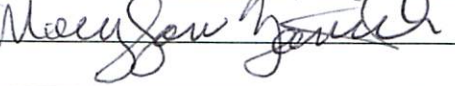


LSC Use Only No:	LSC Action-Date:	10-9c. 09-36c.	UWUCC USE Only No.	UWUCC Action-Date:	Senate Action Date:
				W-10/12/10 T-11/17/09	

Curriculum Proposal Cover Sheet - University-Wide Undergraduate Curriculum Committee

Contact Person Francisco Alarcón	Email Address falarcon@iup.edu
Proposing Department/Unit Mathematics	Phone 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		
<u>Current</u> Course prefix, number and full title		<u>Proposed</u> 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 ☐ New Degree Program ☐ Program Title Change ☒ Program Revision ☐ New Minor Program ☐ New Track ☐ Other		
Bachelor of Science- Mathematics		
<u>Current</u> program name		<u>Proposed</u> program name, if changing
4. Approvals		
Department Curriculum Committee Chair(s)		Date 4/22/09
Department Chair(s)		4/21/09
College Curriculum Committee Chair		10/16/09
College Dean		10/19/09
Director of Liberal Studies *		
Director of Honors College *		
Provost *		
Additional signatures as appropriate: (include title)		
UWUCC Co-Chairs		

* where applicable

Received

OCT 20 2009

Liberal Studies

1. Revised Program**Bachelor of Science—Mathematics**

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 53

Mathematics: MATH 125

Liberal Studies Electives: 9cr, no courses with MATH prefix

Major: 39-40

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	3cr

Controlled Electives:

Four courses from the following: 12cr

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, 450, 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: 18-25

Total Degree Requirements: 120

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

2. Summary of Changes

a. Comparison Table

Bachelor of Science— Mathematics (Current)

Liberal Studies: As outlined in 53
Liberal Studies section
with the following specifications:
Mathematics: MATH 125
Liberal Studies Electives: 9cr, no courses with
MATH prefix

Major: 37-38

Required Courses:

MATH 126	3cr
MATH 171	3cr
MATH 216	3cr
MATH 225	3cr
MATH 241	3cr
MATH 271	3cr
MATH 272	3cr
MATH 480	1cr

Controlled Electives

Four courses from the
following: 12cr
MATH 371, 421, 422, 423, 427, 476, 477
A minimum of 3 additional
cr from the list of controlled
electives above or the
following: 3-4cr
MATH 342, 350, 353, 355, 363, 364,
445, 446, 447, 465, 481

Other Requirements: 3-9

Computer Science:

COSC 110	3cr
Foreign Language	0-6cr
Intermediate Level (1)	

Free Electives: 20-27

Total Degree Requirements: 120

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

Bachelor of Science— Mathematics (Revised)

Liberal Studies: As outlined in 53
Liberal Studies section
with the following specifications:
Mathematics: MATH 125
Liberal Studies Electives: 9cr, no courses with
MATH prefix

Major: 39-40

Required Courses:

MATH 126	3cr
MATH 171	3cr
MATH 216	3cr
MATH 225	3cr
MATH 241	3cr
MATH 271	3cr
MATH 272	3cr
MATH 480	3cr

Controlled Electives

Four courses from the
following: 12cr
MATH 371, 421, 422, 423, 427, 476, 477
A minimum of 3 additional
cr from the list of controlled
electives above or the
following: 3-4cr
MATH 342, 350, 353, 355, 363, 364,
445, 446, 447, 450, 465, 481

Other Requirements: 3-9

Computer Science:

COSC 110	3cr
Foreign Language	0-6cr
Intermediate Level (1)	

Free Electives: 18-25

Total Degree Requirements: 120

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

2. Summary of Changes

b. Associated course changes

We are proposing that our Senior Seminar course MATH 480 move from 1 credit to 3 credits. We are also allowing students to take a new course, MATH 450 Topics in Applied Computational Mathematics, as a Controlled Elective.

3. Rationale

As part of a department self-study, we found that our students did not have enough practice with oral and written communication. The revised MATH 480 Seminar course will help correct this. We are also allowing students to take the new course MATH 450 as an option for 3 credits in the program. The content MATH 450 is consistent with the material covered in the other courses on the list.

III. Implementation

1. This change will take effect with the 2010 incoming freshman class.
2. Faculty resources are adequate. We have restructured our course rotation to accommodate the new course and the additional credits of MATH 480.
3. Other resources are adequate.
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 is currently working on a new assessment plan for its courses and programs. A draft of the assessment plan is attached.

V. Course Proposals

MATH 450 and 480 proposals have been submitted separately.

VI. Letters of Support or Acknowledgement

None

Program Outcome	Assessment Sources	Person Responsible	Frequency of Assessment	Findings	Feedback	Action Plan	Follow-up
Learn/retain concepts and skills in calculus, linear algebra, and probability and statistics	Comprehensive Exam	MATH 272 Instructor, Math/Applied Math Committee	Completion of core (except MATH 216)				
	core course grades	Instructors	Each semester				
	ETS Major Field Test	MATH 480 instructor	Senior year				
Develop a fundamental understanding of several major ideas of mathematics	major course grades	Instructors	Each semester				
	ETS Major Field Test	MATH 480 instructor	Senior year				
Ability to write a mathematical proof a. direct proof b. indirect proof c. mathematical induction	Comprehensive Exam	MATH 272 Instructor, Math/Applied Math Committee	Completion of core (except MATH 216)				
	271/272 grades	271/272 instructors	After 271/272				
	major course grades	instructors	Each semester				

Ability to Effectively Communicate Mathematics	Oral Presentation	Various major course instructors	Depends on class/instructor				
		Research Day					
	Mathematics Paper, Reaction papers, Process papers	Various major course instructors	Depends on class/instructor				
	Reading/Research Assignments	Various major course instructors	Depends on class/instructor				
Ability to apply mathematics to analyze/model/solve real life applications	major course grades	Instructors	Each semester				
	Possible internship						
Ability to use mathematical/statistical packages appropriately to analyze/solve mathematical/statistical problems							
	major course grades	Various major course instructors					
	Survey	MATH 480 Instructor	MATH 480				
	Exit Interview	Chairperson	Final semester				
	Alumni Survey	Alumni Relations Committee					