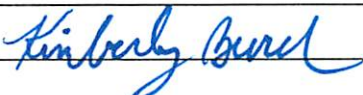
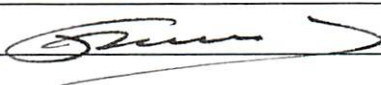
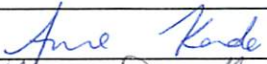
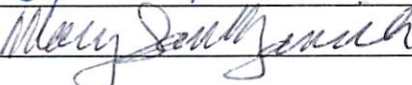
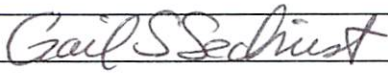


LSC Use Only No:	LSC Action-Date:	UWUCC USE Only No.	UWUCC Action-Date:	Senate Action Date:
		10-53a.	AP-1/18/11	APP 3/22/11

Curriculum Proposal Cover Sheet - University-Wide Undergraduate Curriculum Committee

Contact Person Kimberly Burch	Email Address kjburch@iup.edu
Proposing Department/Unit Mathematics	Phone 724-357-2608

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 ☒ Catalog Description Change ☐ Program Revision ☐ New Minor Program ☐ Program Title Change ☐ Other ☐ New Track	
Bachelor of Science - Applied Mathematics	Bachelor of Science - Mathematics / Applied Mathematics Track
<u>Current</u> program name	<u>Proposed</u> program name, if changing
4. Approvals	
Department Curriculum Committee Chair(s)	 Date: 11/18/10
Department Chair(s)	 Date: 12/7/10
College Curriculum Committee Chair	 Date: 12/9/10
College Dean	 Date: 12/9/10
Director of Liberal Studies *	
Director of Honors College *	
Provost *	 Date: 1/20/11
Additional signatures as appropriate: (include title)	
UWUCC Co-Chairs	 Date: 11/18/11

* where applicable

Received

DEC 15 2010

Liberal Studies

II. Description of Curriculum Change

1. Revised Catalog Description

Same preamble as Bachelor of Science – Mathematics.

Bachelor of Science – Mathematics / Applied Mathematics Track

Liberal Studies: As outlined in Liberal Studies section 53

With the following specifications:

Mathematics: MATH 125

Liberal Studies Electives: 9cr, no courses with MATH prefix
(Foreign Language is included)

Major: 42

Required Courses:

MATH 126	Calculus II for Physics, Chemistry, and Mathematics	3cr
MATH 171	Introduction to Linear Algebra	3cr
MATH 216	Probability and Statistics for Natural Sciences	3cr
MATH 225	Calculus III for Physics, Chemistry, and Mathematics	3cr
MATH 241	Differential Equations	3cr
MATH 271	Introduction to Mathematical Proofs I	3cr
MATH 272	Introduction to Mathematical Proofs II	3cr
MATH 363	Mathematical Statistics I	3cr
MATH 447	Modeling and Simulation	3cr
MATH 450	Topics in Applied Computational Mathematics	3cr

Controlled Electives: (1)

One course from the following: 3cr

MATH 371, 421, 423, 427, 476

One course from the following: 3cr

MATH 445 or 446

One course from the following: 3cr

MATH 480 or 493 (3)

One more course from the following: 342, 364, 445, 446 3cr

Other Requirements: 21

Computer Science:

COSC 110 Problem Solving and Structured Programming 3cr

COSC/MATH 250 Introduction to Numerical Methods 3cr

Foreign Language Intermediate Level (2)

Minor or Planned Program in Complementary Field (requires advisor approval)
with at least 6cr in 300/400-level courses 15cr

Free Electives: 4

Total Degree Requirements: 120

- (1) A student may select courses for a specialized area.
Statistics/Actuarial Science: MATH 363, 364, 371, 446.
 Additionally a student should minor in Applied Statistics.
Math Analysis/Engineering: MATH 342/447, MATH 371, 423
Operations Research: MATH 371, 421, 445/446, 447
- (2) Intermediate-level Foreign Language is included in Liberal studies electives.
- (3) 3 credits of internship will be applied to the major. Additional credits may count as free electives.

2a. Table comparing old and new programs

NA since this is the creation of a new track.

2b. List of all associated course changes

1. MATH 450 is a new 3cr course (it is in the UWUCC).
2. MATH 480 has been changed from 1cr to 3cr.

2c. Rationale for Change

The Mathematics Department is proposing an Applied Mathematics track for the Bachelor of Science in Mathematics. Both the Mathematics and Applied Mathematics majors share a common core. The Applied Mathematics major was originally created as a recruiting tool, but that has not proven necessary. Students enter as math majors unsure of the difference and often declare an applied mathematics major after taking several courses. This track is essential in that it provides a detailed outline for those students who wish to pursue graduate school in Applied Mathematics and to those who will pursue employment in industry. There are no additional resources required for this track because the majors courses are all dual listed and are taken by our graduate students pursuing their Master's in Applied Mathematics. The identified courses are those which will focus on skills that are most required in industry.

MATH 480 Senior Seminar is being changed from a 1 credit course to a 3 credit course because it will serve as our capstone experience. This change will allow students to research, develop, and present an independent project.

MATH 480 has been approved by the Senate. MATH 450 is in the UWUCC.

III. Implementation

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

All courses remain in the same rotation. Both programs are currently Bachelor of Science degrees, so no new courses will be added. Students in the current Math and Applied Math degree programs will be able to finish the program as it exists in their catalog.

2. Are faculty resources adequate?

Faculty resources are adequate. Both programs are currently Bachelor of Science degrees, so no new courses will need to be covered.

3. Are other resources adequate?

Resources are adequate. Math 480 has been approved by the Senate and Math 450 is being reviewed by the UWUCC.

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 expect the number of students to remain the same since the Applied Math degree will become a track within Mathematics. No adjustment will be necessary.

5. The intended implementation date is Fall 2011.

IV. Periodic Assessment

The Mathematics Department is its own evaluating entity. There is no accrediting body for mathematics programs. This revision is due to the low enrollment in the B.S. Applied Mathematics program.

Future plan:

1. The Department conducts a five-year review of all majors in Mathematics using two qualified evaluators from outside IUP. We will use this review as our primary measure of assessment for the proposed tracks.
2. There is still an assessment portion in MATH 480. It will be used partially to evaluate the success of the tracks. Student input will be gathered in this course via surveys and evaluations.

V. Course Proposals

None.

VI. Letters of Support or Acknowledgement

A letter of support from Dr. Wimbowo has been requested.