

LSC Use Only No:	LSC Action-Date:	UWUCC USE Only No.	UWUCC Action-Date:	Senate Action Date:
		11-32	App-11-29-11	App-2/21/12

Curriculum Proposal Cover Sheet - University-Wide Undergraduate Curriculum Committee

Contact Person Dr. Lawrence Kupchella or Dr. Stan Sobolewski	Email Address Lawrence.Kupchella@iup.edu, sobolews@iup.edu
Proposing Department/Unit Natural Science	Phone 7-2363 or 7-4590

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) <input type="checkbox"/> New Course <input type="checkbox"/> Course Prefix Change <input type="checkbox"/> Course Deletion <input type="checkbox"/> Course Revision <input type="checkbox"/> Course Number and/or Title Change <input type="checkbox"/> Catalog Description Change	
<hr/> <i>Current Course prefix, number and full title</i> <i>Proposed course prefix, number and full title, if changing</i>	
2. Additional Course Designations: check if appropriate <input type="checkbox"/> This course is also proposed as a Liberal Studies Course. <input type="checkbox"/> Other: (e.g., Women's Studies, Pan-African) <input type="checkbox"/> This course is also proposed as an Honors College Course.	
3. Program Proposals <input type="checkbox"/> New Degree Program <input type="checkbox"/> Program Title Change <input type="checkbox"/> Program Revision <input type="checkbox"/> New Minor Program <input type="checkbox"/> New Track <input checked="" type="checkbox"/> Other	
<hr/> B.S. in Natural Science/Pre-Engineering Track Program Track Deletion <i>Current program name</i> <i>Proposed program name, if changing</i>	
4. Approvals	
Department Curriculum Committee Chair(s)	Date
<i>Lawrence Kupchella</i>	4/8/2011
Department Chair(s)	
College Curriculum Committee Chair	6/29/11
College Dean	6/29/11
Director of Liberal Studies *	
Director of Honors College *	
Provost *	9/23/11
Additional signatures as appropriate: (include title)	
UWUCC Co-Chairs	11/29/11

Received

SEP 22 2011

Liberal Studies

Part I. Curriculum Proposal Cover Sheet

(above)

Part II. Description of the Curriculum Change

1. An exact statement of what is to be deleted

The Bachelor of Science–Natural Science/Pre-Engineering Track is going to be deleted. This track will be replaced with the Bachelor of Science–Physics/Pre-Engineering Track

Bachelor of Science–Natural Science/Pre-Engineering Track

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

Mathematics: MATH 123

Humanities/Philosophy and Religious Studies: PHIL 222

Natural Science: CHEM 111-112

Social Science: ECON 121, PLSC 101 or 111

Synthesis: not required for three-year students

Writing Intensive: one course required for three-year students

Liberal Studies Electives: MATH 124, no courses with SCI prefix

Major: 33-35

Required Courses:

COSC 110 Problem Solving and Structured Programming 3cr

COSC 250 Introduction to Numerical Methods 3cr

MATH 171 Introduction to Linear Algebra 3cr

MATH 241 Differential Equations 3cr

MATH 342 Advanced Mathematics for Applications 4cr

PHYS 131 Physics I-C Lecture 3cr

PHYS 132 Physics II-C Lecture 3cr

PHYS 141 Physics I-C Lab (or PHYS 121 Lab) 1cr

PHYS 142 Physics II-C Lab 1cr

PHYS 331 Modern Physics (2) 3cr

Controlled Electives: one package, depending on program

Chemical Engineering:

CHEM 231 Organic Chemistry I 4cr

CHEM 232 Organic Chemistry II 4cr

Civil Engineering:

MATH 216 Probability and Statistics for Natural Sciences 3cr

— Technical elective 3-4cr

Electrical Engineering:

MATH 216 Probability and Statistics for Natural Sciences 3cr

— Technical elective 3-4cr

Industrial Engineering:

MATH 216 Probability and Statistics for Natural Sciences 3cr

— Technical elective 3-4cr

Materials Science and Engineering:

CHEM 231 Organic Chemistry I 4cr

CHEM 232 Organic Chemistry II 4cr

Mechanical Engineering:

— Technical electives 6-8cr

Other Requirements: 0-6

Foreign Language Intermediate Level (1) 0-6

Free Electives: 9

Other Requirements: about 64

Two years at University of Pittsburgh School of Engineering (2, 3)

(#) **Total Degree Requirements:** 159-161

(1) Intermediate-level Foreign Language may be included in Liberal Studies electives.

(2) A 2.8 cumulative GPA is required for transfer to the University of Pittsburgh.

(3) For curriculum information about the cooperative program in engineering with Drexel University, refer to the catalog section for the Physics Department.

(#) See advisory paragraph "Timely Completion of Degree Requirements" in the section on Requirements for Graduation

2. Justification/Rationale

For more than twenty years, there has been an articulation agreement between the University of Pittsburgh and IUP regarding a 3/2 BS Natural Science pre-engineering program. Prospective students enrolled in this program spend 3 years at IUP and complete introductory core science and liberal study course requirements. After completing 90 to 92 credits of the required course work, the students are eligible to apply to their chosen engineering department and spend 2 years at University of Pittsburgh to earn BS degree in engineering. In view of the advances in the field of engineering, the IUP Physics Department and University of Pittsburgh School of Engineering have agreed that the students should take more Physics courses at IUP – specifically PHYS 441 Classical Mechanics, PHYS 355 Computer Interfacing, PHYS 345 Optics, and PHYS 350 Intermediate experimental Physics.

It is worth mentioning that many of the skills required of an engineer intersect those of a physicist. They take the same science and math classes, require a cogent understanding of the natural world, and use similar data gathering techniques. More than half of the IUP Physics Department's seminar speakers typically come from a school of engineering. Therefore, it makes sense that a dual degree engineering program would come out of the Physics department. To this end, the B.S. in Natural Science/ Pre-Engineering Track will be eliminated and replaced with the B.S. in Physics/Pre-Engineering Track.

3. A description of how this change will affect existing courses, programs, etc. and how the deletion(s) will affect students currently enrolled in the program

Students in the current B.S. Natural Science / pre-engineering program will be able to transfer to the new B.S. Physics / pre-engineering track without much difficulty. The Natural Science Pre-engineering students are required to take the same sequence of introductory courses; the courses they are currently taking are prerequisites to upper level physics course. The upper level physics courses will be able to accommodate the pre-engineering students.

Part III. Letters of Support or Acknowledgement

Attach letters from interested or affected departments.

E mails with read receipts were sent to the chairs of Philosophy, Political Science and Economics.

Philosophy and Economics responded

Political Science returned the read receipt

Stanley Sobolewski

From: Stanley Sobolewski <sobolews@iup.edu> **Sent:** Tuesday 5 April 2011 1:49 PM **To:** 'mmacleod@iup.edu' **Subject:** Notification of Change in pre-engineering curriculum

Dr. MacLeod,

The College of Natural Science and Mathematics is reorganizing some of its programs. The Pre-Engineering Program is moved from the Natural Science Department into the Physics Department, as a track in the B.S. Physics Degree. This will result in curriculum changes.

Specifically, the new track will not have a proscribed Philosophy course. In the NSM pre-engineering track, PHIL 222 was required. This constraint is being removed since the track is being deleted. The number of students involved in this course is fewer than ten per year.

For our curriculum process, all I need is verification that I have informed your department of this change, hence a brief acknowledgement is all I need.

Thanks,

Stan.

Stan, Thank you. I'm aware of the change.

Mary MacLeod
Associate Professor
Department of Philosophy, Chair
Indiana University of Pennsylvania

mmacleod@iup.edu

Stanley Sobolewski

From: Stanley Sobolewski <sobolews@iup.edu> **Sent:** Tuesday 5 April 2011 1:49 PM **To:** 'jfsitton@iup.edu' **Subject:** Notification of Change in pre-engineering curriculum

Dr. Sitton,

The College of Natural Science and Mathematics is reorganizing some of its programs. The Pre-Engineering Program is moved from the Natural Science Department into the Physics Department, as a track in the B.S. Physics Degree. This will result in curriculum changes.

Specifically, the new track will not have a proscribed Social Science course. In the NS pre-engineering track, PLSC 101 111 were required. This constraint is being removed since the track is being deleted. The number of students involved in the change is fewer than ten per year.

For our curriculum process, all I need is verification that I have informed your department of this change, hence a brief acknowledgement is all I need.

Thanks,

Stan.

Your message

To: jfsitton@iup.edu
Subject: Notification of Change in pre-engineering curriculum
Sent: 4/5/2011 1:49 PM

was read on 4/5/2011 3:39 PM.

Stanley Sobolewski

From: Stanley Sobolewski <sobolews@iup.edu> **Sent:** Tuesday 5 April 2011 1:49 PM **To:** 'Nicholas.Karatjas@iup.edu'
Subject: Notification of Change in pre-engineering curriculum

Dr. Karatjas,

The College of Natural Science and Mathematics is reorganizing some of its programs. The Pre-Engineering Program is moved from the Natural Science Department into the Physics Department, as a track in the B.S. Physics Degree. This result in curriculum changes.

Specifically, the new track will not have a proscribed Social Science course. In the NSM pre-engineering track, ECON 1 required. This constraint is being removed since the track is being deleted. The number of students involved in this track is fewer than ten per year.

For our curriculum process, all I need is verification that I have informed your department of this change, hence a brief acknowledgement is all I need.

Thanks,

Stan.

Stan -

Thank you for letting us know about the change in the Pre-Engineering Program. I acknowledge that we are now aware that ECON 121 will no longer be required.

Nick Karatjas

Chairperson

Department of Economics