

uwucc
09-39e. App-12/8/09 App 1/26/10

Curriculum Proposal Cover Sheet - University-Wide Undergraduate Curriculum Committee

Contact Person Dr. Jan Wachter	Email Address Jan.wachter@iup.edu
Proposing Department/Unit Safety Sciences Department	Phone 7-3275

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

SAFE 345: Systems Safety Analysis

<u>Current</u> Course prefix, number and full title	<u>Proposed</u> course prefix, number and full title, if changing
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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 Other
 New Minor Program New Track Catalog Description Change Program Revision

<u>Current</u> program name	<u>Proposed</u> program name, if changing
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4. Approvals	Date
Department Curriculum Committee Chair(s) <i>Jan Wachter</i>	<i>Nov 21, 2009</i>
Department Chair(s) <i>La Leyra</i>	<i>11/2/09</i>
College Curriculum Committee Chair <i>Jeffrey Miller</i>	<i>11-4-09</i>
College Dean	
Director of Liberal Studies *	
Director of Honors College *	
Provost *	
Additional signatures as appropriate: (include title)	
<i>Gail S Sedviot</i>	<i>12/8/09</i>

Received

NOV 09 2009

Part II. Description of Curriculum Change

1. **A complete catalog description including the course name, class and lab hour designation, number of credits, the prerequisites, and the new course description**

New catalog description:

SAFE 345 Systems Safety Analysis

3c-0l-3cr

Prerequisites: MATH 105 or instructor permission

Focuses on the evaluation of system designs using detailed system analysis techniques. Topics include system definition, economics of systems safety, systems safety methodology, and mathematics of systems analysis, including statistical methods, Boolean algebra, and reliability. Skills gained include the ability to perform system hazard analyses and operating and support hazard analyses. Techniques include failure mode and effect analysis, fault tree analysis, and technique for human error rate prediction. Practical analysis work is accomplished through in-class discussion, demonstration sessions, and homework assignments.

2. **A listing of the proposed change including the complete old catalog description**

Proposed change: Change the prerequisites for the SAFE 345 course from MATH 217 and SAFE 211 to MATH 105.

Old catalog description:

SAFE 345 Systems Safety Analysis

3c-0l-3cr

Prerequisites: MATH 217, SAFE 211

Focuses on the evaluation of system designs using detailed system analysis techniques. Topics include system definition, economics of systems safety, systems safety methodology, and mathematics of systems analysis, including statistical methods, Boolean algebra, and reliability. Skills gained include the ability to perform system hazard analyses and operating and support hazard analyses. Techniques include failure mode and effect analysis, fault tree analysis, and technique for human error rate prediction. Practical analysis work is accomplished through in-class discussion, demonstration sessions, and homework assignments.

3. **Justification/rationale for the change**

On September 20-22, 2009, the Accreditation Board of Engineering and Technology's (ABET) Applied Science Accreditation Commission (ASAC) visited IUP's Department of Safety Sciences to conduct its accreditation review of IUP's

undergraduate safety sciences program. A weakness cited by this accreditation team in its evaluation report was that the safety sciences program must have and enforce procedures to assure that all students are meeting all program requirements since transcript evaluations indicated that some students have taken courses without fulfilling prerequisites or have taken prerequisites concurrently.

To deal with this weakness, the Safety Sciences' Department Curriculum Committee – in consultation with class instructors – was tasked by the Department Chairperson to critically examine the appropriateness of all SAFE current course prerequisites, especially those identified earlier as having a history of overrides. The Curriculum Committee has conducted its review of safety science courses and is recommending that the list of prerequisites be revised to include only those which are truly critical and appropriate for the successful completion of the course. As a part of this review, it is being recommended by the Safety Sciences Department's Curriculum Committee that MATH 105: College Algebra becomes the prerequisite for the SAFE 345: Systems Safety course, since MATH 105 is deemed to be sufficient for the successful completion of the SAFE 345 course.

Part III. Letters of Support or Acknowledgement

This section is not applicable.