The University Of Toledo

NEW COURSE PROPOSAL

1. College: ENG
   Department: 

2. Contact Person: W. Ted Evans
   Phone: 530-3349
   Email: william.evans@utoledo.edu

3. Alpha/Numeric Code (Subject area - number): GNEN -

4. Proposed title:
   SPECIAL PROJECTS IN ENGINEERING

5. Proposed effective term: SUMMER 2011

6. Planned enrollment per section: per term: 10

7. Credit hours: Fixed: or Variable: 1 to 6

8. Delivery Mode:
   a. Activity Type
      Other (DL) Independent Study
   b. Minimum Credit Hours
      1
   c. Maximum Credit Hours
      6

9. Terms offered:
   Check Fall Spring Summer
   Years offered:
   Check Every Year Alternate Years

10. Are students permitted to register for more than one section during a term?
    Check No Yes
    May the courses be repeated for credit?
    Check No Yes
    Maximum Hours

11. Grading System:
    a. Undergraduate
       Normal Grading (A-F,PS/NC,PR, I)
       Passing Grade/No Credit (A-C, NC)
    b. Graduate
       Normal Grading (A-F,PS/NC,PR, I)
       Grade Only (A-F)

http://curriculumtracking.utoledo.edu/NewCourseShow.asp?alpha_id=GNEN&num_id=6920

2/7/2011
Display New Course Information

Credit/No Credit
- Grade Only (A-F, PR, I)
- Audit only
- No Grade

Satisfactory/Unsatisfactory (G only)
- Audit only
- No Grade

12. Prerequisites (must be taken before): a. b. c.

Co-requisites (must be taken together): a. b. c.

PIN (Permission From Instructor) PDP (Permission From Department)

13. If course is to replace an existing, course(s) will be deleted, and when should that deletion occur?

Course to be removed from inventory: a. ENGT 6920

Final Term to be offered (YYYYT, i.e. use 20064 for Fall 06): 2011

14. Catalog description (30 words Maximum)

A special project is intended for the graduate student to investigate or solve a problem in an engineering area. The scope of the project is defined by the instructor in an area of mutual interest of the instructor and the student. Prerequisite: Consent of the faculty member.

15. Attach a copy of a complete outline of the major topics covered. (Providing a syllabus that includes this information is acceptable.)

Syllabus: Click here to view the Syllabus
Attachment 1 No Attachment
Attachment 2 No Attachment

16. Where does this course fit in the University/College/Department curriculum? (Be specific by course level, if applicable). Indicate prospective demand.

The GNEN 6920 course consists of a project and will be offered to students enrolled in the Master of Science in Engineering program.

17. If the proposed course is similar to another course in the College or University, please describe the difference and provide a rationale for the duplication. (If this course duplicates material covered in another course within your department or college or in another college, attach a letter of endorsement from that area's dean and department chairperson indicating their support. Clarify the manner in which this course will differ).

18. If the course is intended to meet a University Undergraduate Core requirement, complete the following and submit a course syllabus using the template:

Please explain how this course fulfills the general education guidelines. (Guidelines are available in Faculty Senate Website)

Course Approval:

Department Curriculum Authority: William T. Evans Date 2/7/2011
Department Chairperson: Allen Young Date 2/7/2011

http://curriculumtracking.utoledo.edu/NewCourseShow.asp?alpha_id=GNEN&num_id=6920 2/7/2011
After college approval, submit the original signed form to the Faculty Senate (UH 3320) for undergraduate-level courses; for graduate-level courses submit the original signed form to the Graduate School (UH 3240). For undergraduate/graduate dual-level courses, submit the proposals to each office.

<table>
<thead>
<tr>
<th>Office</th>
<th>Signature</th>
<th>Date</th>
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<tbody>
<tr>
<td>College Curriculum Authority:</td>
<td>Patricia Kelso</td>
<td>02/08/2011</td>
</tr>
<tr>
<td>College Dean:</td>
<td>Malandra</td>
<td>03/04/2011</td>
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<tr>
<td>Faculty Senate Undergrad. Curriculum Comm.</td>
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<td>Faculty Senate Core Curriculum Comm. :</td>
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<td>Graduate Council :</td>
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<td>Office of the Provost :</td>
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<td>Registrar's Office:</td>
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SPECIAL PROJECTS IN ENGINEERING (GNEN 6920)

Consent of Faculty Member

1 to 6 semester hours

None

A special project is intended for the graduate student to investigate or solve a problem in an engineering area. The scope of the project is defined by the instructor in an area of mutual interest of the instructor and the student.

An engineering faculty.

Every student is required to complete a project and submit a report describing the work conducted and results obtained.

Satisfactory/Unsatisfactory grading will be used (S,U,PR)
<table>
<thead>
<tr>
<th>Course ID</th>
<th>Title</th>
<th>College Department</th>
<th>Credit Hours</th>
<th>Course Description</th>
<th>Prerequisites and Corequisites</th>
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</thead>
<tbody>
<tr>
<td>ENGT1000</td>
<td>Engineering Technology Orientation</td>
<td>EN ENGT</td>
<td>1</td>
<td>Overview of careers in engineering technology, information about each program in Engineering Technology, and skills required for success in technological fields, such as computer skills. Concepts and techniques on the application of computers to the solution of manufacturing and engineering technology problems. Provides an introduction to computer operating systems, programming language and technical software. An introduction to the performance expectations of the engineering profession. Topics covered include resume writing, public speaking, interviewing skills, ethics, social responsibilities and the value of continuing education and professional registration.</td>
<td>ENGT 1000 FOR LEVEL UG WITH MIN. GRADE OF D-</td>
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<tr>
<td>ENGT1050</td>
<td>Computers For Engineering Technology</td>
<td>EN ENGT</td>
<td>3</td>
<td>General methodology of managing a technical project from concept to operational use. Emphasis is on the functions and responsibilities of the project manager related to maintaining project control and team management. Introduction to probability, statistical inference and design of experiments. Topics include confidence intervals, tests of hypothesis, regression, analysis of variance, factorial experimental designs and propagation of experimental errors. Introduction to partial derivatives, series expansions, complex variables, differential equations and Laplace transforms analysis. Application of computers for numerical solution techniques.</td>
<td>MATH 2450 FOR LEVEL UG WITH MIN. GRADE OF D.</td>
</tr>
<tr>
<td>ENGT1200</td>
<td>Professional Development</td>
<td>EN ENGT</td>
<td>1</td>
<td>Study of the relationships between structures and properties for common engineering materials, including metals, polymers, ceramics and composites. Mechanical behavior, temperature effects, heat treatment, corrosion and electrical properties are covered. An introduction to basic analytical techniques for resistive and reactive DC and AC electric circuits, and an introduction to electronic devices, including diodes and transistors. No credit towards EET degree.</td>
<td>ENGT 3010 FOR LEVEL UG WITH MIN. GRADE OF D- AND MET 2120 FOR LEVEL UG WITH MIN. GRADE OF D- AND CHEM 1230 FOR LEVEL UG WITH MIN. GRADE OF D- OR (ENGT 3010 FOR LEVEL UG WITH MIN. GRADE OF D-) OR (ENGT 3010 FOR LEVEL UG WITH MIN. GRADE OF D-) OR (ENGT 3010 FOR LEVEL UG WITH MIN. GRADE OF D-) OR (ENGT 3010 FOR LEVEL UG WITH MIN. GRADE OF D-)</td>
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<tr>
<td>ENGT1250</td>
<td>Technical Project Management</td>
<td>EN ENGT</td>
<td>3</td>
<td>Approved co-op work experience. Course may be repeated.</td>
<td>MATH 1340 FOR LEVEL UG WITH MIN. GRADE OF D.</td>
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<tr>
<td>ENGT1310</td>
<td>Applied Statistics And Design Of Experiments</td>
<td>EN ENGT</td>
<td>4</td>
<td>A comprehensive problem in engineering technology is assigned to a group of students who work together as a team to present a solution in a formal written and oral report.</td>
<td>ENGT 2000 FOR LEVEL UG WITH MIN. GRADE OF D.</td>
</tr>
<tr>
<td>ENGT1320</td>
<td>Applied Engineering Mathematics</td>
<td>EN ENGT</td>
<td>3</td>
<td>A review and application of general engineering principles and procedures in preparation for the Fundamentals of Engineering (FE) exam. Offered for students preparing to take the exam and for those considering it.</td>
<td>ENGT 3940 FOR LEVEL UG WITH MIN. GRADE OF D.</td>
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<tr>
<td>ENGT1330</td>
<td>Applied Statics and Dynamics</td>
<td>EN ENGT</td>
<td>4</td>
<td>Fundamentals of applied heat transfer by conduction, laminar and turbulent convection, condensation and boiling, radiation exchange between surfaces, and heat exchangers. Finite Element Analysis software is used for solving practical heat transfer problems.</td>
<td>ENGT 3010 FOR LEVEL UG WITH MIN. GRADE OF D- AND MET 2120 FOR LEVEL UG WITH MIN. GRADE OF D- AND CHEM 1230 FOR LEVEL UG WITH MIN. GRADE OF D-</td>
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<tr>
<td>ENGT1550</td>
<td>Special Topics in Engineering Technology</td>
<td>EN ENGT</td>
<td>2-4</td>
<td>Selected topics in engineering technology with emphasis on intensive investigation of recent literature in areas of special interest.</td>
<td>Fundamentals of applied heat transfer by conduction, laminar and turbulent convection, condensation and boiling, radiation exchange between surfaces, and heat exchangers. Finite Element Analysis software is used for solving practical heat transfer problems.</td>
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<tr>
<td>ENGT6920</td>
<td>Special Projects in Engineering Technology</td>
<td>1-6</td>
<td>A special project is intended for the graduate student to investigate or solve a problem in an area of mechanical, electrical, construction or computer science engineering technology. The scope of the project is defined by the instructor in the area of study.</td>
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<tr>
<td>ENGT6980</td>
<td>Special Topics in Engineering Technology</td>
<td>1-6</td>
<td>A special topic in advanced engineering or technology emphasizing investigation of literature and/or methods in areas of special interest to the class and the instructor.</td>
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