# The University Of Toledo

## NEW COURSE PROPOSAL

**Level (check one)**

- Undergraduate
- ⊙ Graduate

**Will this course impact program requirements?** ___ **If yes, a Program Modification must be completed.**

Type of course (check all that apply):

- ☐ Academic Skills Enhancement        ☐ Writing Intensive (WAC)        ☐ honors
- ☐ Univ. Core: ☐ *English*  ☐ *Hum*  ☐ *Math*  ☐ *Nat.Sciences*  ☐ *Social Sciences*

  *Multicultural:* ☐ *Diversity of US Culture*  ☐ *Non-US Culture*

- ☐ Transfer module: ☐ *Arts&Hum*  ☐ *Engl*  ☐ *Math*  ☐ *Nat Sci & Phys*  ☐ *Soc Sci*

*(to be considered as core curriculum, question 18 must be completed)*

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 - 6920

4. Proposed title:

   SPECIAL PROJECTS IN ENGINEERING

   Proposed effective term: SUMMER 2011

5. Planned enrollment per section: _____ per term: 10

6. Is the course cross-listed with another academic unit?  ☐ Yes  ☑ No

   Is the course offered at more than one level?  ☐ Yes  ☑ No

   If yes to either question, please list additional Alpha/Numeric codes, and submit a separate New Course form or Course Modification form for the course(s) referenced below.

   a. _____ - _____    b. _____ - _____    c. _____ - _____

   Approval of other academic unit (signature) _____

   Name and title _____

   If course is to be offered at more than one level, attatch an explanation of the different requirements that students must meet for each level. If the requirements are the same for each level, justification must be provided.

**Administrative Use Only**

Code: _____

Approved (senate or Grad Council) _____

Effective Date: ____ / ____ / ____ (mm/dd/yyyy)

CIP Code: _____

Sub: ____  Prog: ____  Level: ____

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

8. Delivery Mode:

| | Primary | Secondary | Tertiary |
|---|---|---|---|
| a. Activity Type* | Other (DL) | Independent Study | |
| b. Minimum Credit Hours | 1 | | |
| Maximum Credit Hours | 6 | | |
| c. Weekly Contact Hours | Variable | | |

*Choices are: Lecture, Recitation, Seminar, Regular Lab, Open Lab, Studio, Clinic, Field, Independent Study, Workshop, Computer Assisted Instruction, Other

9. Terms offered:   ☑ Fall  ☑ Spring  ☑ Summer

   Years offered:   ⊙ Every Year   ☐ Alternate Years

10. Are students permitted to register for more than one section during a term?  ⊙ No  ☐ Yes

    May the courses be repeated for credit?  ⊙ No  ☐ Yes _____ Maximum Hours

11. Grading System:    Undergraduate                          Gradute

    - ☐ Normal Grading (A-F,PS/NC.PR, I)      ☐ Normal Grading (A-F,PS/NC.PR, I)
    - ☐ Passing Grade/No Credit (A-C, NC)     ☐ Grade Only (A-F)

○ Credit/No Credit                              ◉ Satisfactory/Unsatisfactory (G only)

○ Grade Only (A-F, PR, I)                       ○ Audit only

○ Audit only                                    ○ No Grade

○ No Grade

12. Prerequisites (must be taken **before**):   a. [          -          ]   b. [          -          ]   c. [          -          ]

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

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

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

    a.  [ ENGT        ] - [ 6920 ]               [ 20111 ]

    b.  [            ] - [      ]                [        ]

    c.  [            ] - [      ]                [        ]

    d.  [            ] - [      ]                [        ]

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 maner 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 ] (mm/dd/yyyy)

Department Chairperson:             *Allen Rioux*        Date [ 2 ] / [ 7 ] / [ 2011 ] (mm/dd/yyyy)

College Curriculum Authority: _Patricia Relue_    Date 02 / 08 / 2011 (mm/dd/yyyy)

College Dean: _Mohamd W_    Date 02 / 09 / 2011 (mm/dd/yyyy)

*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 (UH3240). For undergraduate/graduate dual-level courses, submit the proposals to each office.*

Faculty Senate Undergrad. Curriculum Comm.: [                    ] Date [  ] / [  ] / [    ] (mm/dd/yyyy)

Faculty Senate Core Curriculum Comm : [                    ] Date [  ] / [  ] / [    ] (mm/dd/yyyy)

Graduate Council : [                    ] Date [  ] / [  ] / [    ] (mm/dd/yyyy)

Office of the Provost : [                    ] Date [  ] / [  ] / [    ] (mm/dd/yyyy)

Registrar's Office: [                    ] Date [  ] / [  ] / [    ] (mm/dd/yyyy)

COLLEGE OF ENGINEERING

MASTER OF SCIENCE IN ENGINEERING WITH A CONCENTRATION IN GENERAL ENGINEERING

SYLLABUS

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COURSE:                     SPECIAL PROJECTS IN ENGINEERING (GNEN 6920)

PREREQUISITE:               Consent of Faculty Member

CREDIT:                     1 to 6 semester hours

TEXT:                       None

CATALOG DESCRIPTION:        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.

INSTRUCTOR:                 An engineering faculty.

GRADING POLICY:             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)

# Course Descriptions

ENGT · [Search]

| Course ID | Title | College | Department | Credit Hours | Course Description | Prerequisites and Corequisites |
|---|---|---|---|---|---|---|
| ENGT1000 | Engineering Technology Orientation | EN | ENGT | 1 | 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. | |
| ENGT1050 | Computers For Engineering Technology | EN | ENGT | 3 | 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. | |
| ENGT2000 | Professional Development | EN | ENGT | 1 | 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 registratio | ENGT 1000 FOR LEVEL UG WITH MIN. GRADE OF D- |
| ENGT2500 | Technical Project Management | EN | ENGT | 3 | 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. | |
| ENGT3010 | Applied Statistics And Design Of Experiments | EN | ENGT | 4 | 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. | |
| ENGT3020 | Applied Engineering Mathematics | EN | ENGT | 3 | Introduction to partial derivatives, series expansions, complex variables, differential equations and Laplace transform analysis. Application of computers for numerical solution techniques. | MATH 2460 FOR LEVEL UG WITH MIN. GRADE OF D- |
| ENGT3030 | Applied Statics and Dynamics | EN | ENGT | 4 | | |
| ENGT3040 | Applied Materials Science | EN | ENGT | 4 | 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. | (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- AND MET 2120 FOR LEVEL UG WITH MIN. GRADE OF D- AND CHEM 1280 |
| ENGT3050 | Fundamentals Of Electricity | EN | ENGT | 4 | 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. | MATH 1340 FOR LEVEL UG WITH MIN. GRADE OF D- |
| ENGT3940 | Co-Op Experience | EN | ENGT | 1 | Approved co-op work experience. Course may be repeated. | ENGT 2000 FOR LEVEL UG WITH MIN. GRADE OF D- |
| ENGT3950 | Co-op Experience | EN | ENGT | 1 | Approved co-op work experience beyond third required co-op experience. Course may be repeated. | ENGT 3940 FOR LEVEL UG WITH MIN. GRADE OF D- |
| ENGT4050 | Senior Technology Capstone | EN | ENGT | 3 | 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. | |
| ENGT4900 | Engineering Review For Professional Certification | EN | ENGT | 3 | 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. | |
| ENGT4980 | Special Topics In Engineering Technology | EN | ENGT | 2-4 | Selected topics in engineering technology with emphasis on intensive investigation of recent literature in areas of special interest. | |
| ENGT5400 | Applied Heat Transfer | EN | ENGT | 3 | 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 problem | |
| ENGT5500 | Applications Of Engineering Analysis | EN | ENGT | 3 | A course in analysis for engineers. Topics include: Linear differential equations, continuous and discrete series representations. Laplace transforms, matrix methods, eigenvalues and eigenvectors, systems of equations. | |

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|---|---|---|---|---|---|
| ENGT6920 | Special Projects In Engineering Technology | EN | ENGT | 1-6 | 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 are of mu |
| ENGT6980 | Special Topics In Engineering Technology | EN | ENGT | 1-6 | 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. |