

Proposal Status: Workflow not started

FULL PROPOSAL: Substantive Change(s) to a Program of Study

*Note: New courses included in a program of study change require submission of the **Substantive Change to a Course** proposal.*

Title of proposal (must begin with department abbreviation): ETM - Engineering Management Minor

Place an X next to the ones that apply:

<input type="checkbox"/>	Alteration of requirements for any program of study including majors, minors, concentrations and certificates
<input checked="" type="checkbox"/>	Creating a new program or concentration
<input type="checkbox"/>	Changing admission requirements into a program

Effective date: Fall 2015

Contact information:

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Faculty of the originating department approved this proposal on 10/03/14 (date) by a vote of 6 aye votes; 0 nay votes; 0 abstentions; 0 eligible voting members absent

1. Description of proposed changes

Create a minor in Engineering Management. The minor in Engineering Management will consist of 18 hours of courses from Engineering and Engineering Technology Management (ETM): Engineering Management.

The will be four core courses and two electives from a group of five. The required courses are: ENGR 3520 Engineering Economy, ETEM 3550 Project Management and Practice, ETEM 4560 Quality Improvement, ETEM xxxx Engineering Management (a proposed course).

Two courses are selected from the following courses: ETEM 3580 Materials Management, ETEM 3870 Introduction to Logistics Management, ETEM 4540 Value Management, ETEM 4590 Facilities Management, ETEM 4650 Lean Management Systems.

2. Rationale for requested change

Include data from the annual institutional effectiveness cycle or outcomes assessment; information on changes in disciplinary field(s); national, community and workforce development trends; and address any impact on enrollment trends.

We researched undergraduate minors in Engineering Management at 27 institutions throughout the United States. The programs range from 12 – 25 hours with the four courses listed in our core present in some form in most programs. The two closest programs are

Proposal Status: Workflow not started

offered at Vanderbilt and Georgia Tech. Documented information from institutions such as Old Dominion University have shown that employers seek entry level engineers who possess not only the technical expertise provided by their engineering concentrations, but also the managerial and interpersonal skills provided by a background in engineering management. During the THEC visit of the graduate Engineering Management program the potential was discussed with the visitor, Dr. Resit Unal, from Old Dominion. They have about 385 students in their Engineering Management Minor. This has led to more and better job offers for students who possess the Engineering Management Minor compared to those with only the engineering degree.

The Engineering Management minor develops the skills in team building, interpersonal communications, decision making, project management, leadership, and quality improvement that employers are increasingly looking for in both engineers, scientists, as well as, in other employees in "high tech" organizations. This minor is intended primarily for students with majors in the sciences and engineering. Students with majors in other disciplines who may be interested in this minor should consult with minor advisor to determine its appropriateness to their educational objectives.

3. Current program requirements as listed in the Catalog (**current Catalog copy—include all current required courses**)

None

4. Proposed new description and program requirements to be listed in the Catalog (**current Catalog copy—include all current required courses**)

Engineering Management Minor

18 hours in Engineering Management including:

Core Courses:

- ENGR 3520 - Engineering Economy
- ETEM 3550 - Project Management and Practice
- ETEM 4560 - Quality Improvement
- ETEM 4850 Engineering Management (new course)

Electives: Select 2

- ETEM 3580 - Materials Management
- ETEM 3870 - Introduction to Logistics Management
- ETEM 4540 - Value Management
- ETEM 4590 - Facilities Management
- ETEM 4650 Lean Management Systems

Additional Information and Notes

Minimum 2.0 average in the minor.

5. Outline the student learning outcomes—a statement of the minimum expectations of students as they complete the program. You must list at least three outcomes. Develop and understanding of project planning and scheduling and the application using MS Project Management software.
To define quality and gain a unified understanding of quality assurance, quality control, and quality management.
Be able to identify and apply appropriate management techniques for managing contemporary organizations
6. How will students be assessed on the program learning outcomes?
Quizzes and tests

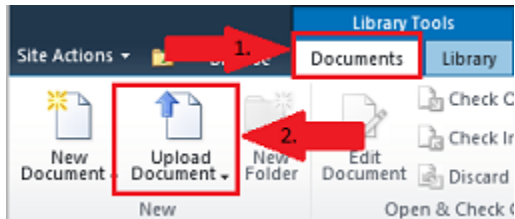
Proposal Status: Workflow not started

Application of appropriate software
Team project

7. Attach a curriculum map for the new program/concentration.
Please see the direction at the end of this proposal for how to upload your curriculum map document.
8. Does this change require new resources from the originating department or other departments (including the library)? If yes, please explain.
No
9. Will the proposed changes impact the ability of students to complete degree requirements in a timely manner? How will the proposed changes impact requirements in other departments or programs?
It is a minor that could require 5 additional courses.
10. Attach a Clear Path Showcase for the new program/concentration.
Please see the directions at the end of this proposal for how to upload your clear path document.

Direction for uploading supporting documents:

1. To upload your model syllabus to the folder for your proposal go to <https://spaces.utc.edu/sites/UndergraduateProposal>.
2. Next, click on the name of your proposal under "My Proposals".
3. Click the "Documents" tab and then click the "Upload Document" tab.



Important: After completing your proposal you must start the *Curriculum Proposal Workflow*.

To begin workflow:

1. Click on the name of your proposal below.
2. Next, click the "Document Set Manage" tab in the ribbon at the top of the page and select the "Workflows" button.



Proposal Status: Workflow not started

3. Under "Start a New Workflow" click "Curriculum Proposal Workflow" and then click the "Start" button.

Workflow Sequence for Full Proposal –Program Changes

1. Department Head
2. College Curriculum Committee
3. College Dean
4. Other Areas Affected (If any)
5. Records Office
6. Associate Provost
7. Provost (if a fee will be assessed)
8. Faculty Senate Curriculum Committee
9. Faculty Senate