The University Of Toledo
New Graduate Course Proposal

* denotes required fields

1. College*: College of Engineering

Department*: Industrial and Manufacturing Engi

2. Contact Person*: Matt Franchetti Phone: 530-4051 (xxx-xxxx) Email: matthew.franchetti@utoledo.edu

3. Alpha/Numeric Code (Subject area - number)*: MIME 5820

4. Proposed title*: Sustainability Analysis and E...
Proposed effective term*: 201540 (e.g. 201140 for 2011 Fall)

5. Is the course cross-listed with another academic unit? ○ Yes ○ No

Approval of other academic unit (signature and title)

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

If yes, an undergraduate course proposal form must also be submitted. If the undergraduate course is new, complete the New Undergraduate Course Proposal; if the undergraduate course is existing, submit an Undergraduate Course Modification Proposal.

6. Credit hours*: Fixed: 3 or Variable:

7. Delivery Mode: Primary* Secondary Tertiary
a. Activity Type * Online --SelectType-- --SelectType--
b. Minimum Credit Hours * 3

Maximum Credit Hours *

8. Weekly Contact Hours *

9. Terms offered: □ Fall ○ Spring ○ Summer

Years offered: ○ Every ○ Alternate

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*:
○ Normal Grading (A-F, S/U, WP/WF, PR, I)
○ Satisfactory/Unsatisfactory (A-C, less than C)
○ Grade Only (A-F, WP/WF, PR, I)
○ Audit Only
○ No Grade

11. Prerequisites (must be taken before): i.e. C or higher in (BIOE 4500 or BIOE 5500) and C or higher in MATH 4200
12. Catalog Description* (75 words Maximum)

The course is intended to introduce students to sustainability analysis and design in manufacturing and service settings as related to mechanical and industrial engineering. It will cover solid waste minimization for manufacturers, life cycle analysis, and environmentally conscious design.

13. Attach a syllabus and an electronic copy of a complete outline of the major topics covered. Click here for template.

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<thead>
<tr>
<th>File Type</th>
<th>View File</th>
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<tbody>
<tr>
<td>Syllabus</td>
<td>View</td>
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14. Comments/Notes:

15. Rationale:

This course will be offered as an elective course for mechanical and industrial engineering students in the manufacturing focus group. Additionally, the course will offered for the Engineering Technology Department's online master's program. The purpose of the course is to equip mechanical and industrial engineering students with emerging knowledge and tools related to sustainability and environmental protection in manufacturing environments.

Course Approval:

Department Curriculum Authority: Matthew Franchetti

Department Chairperson: Abdolah Afjeh

College Curriculum Authority or Chair: Efstratios Nikolaidis

College Dean: Mohamed Samir Hefzy

Graduate Council: [Signature] 2015/05/12 [GC 4.21.2015]
MIME 5820 – Sustainability Analysis and Design (Online)


Course Description: The course is intended to introduce students to sustainability analysis and design in manufacturing and service settings as related to mechanical and industrial engineering. It will cover solid waste minimization for manufacturers, life cycle analysis, and environmentally conscious design.

Course Objectives:
- To familiarize the student with the philosophy and concepts of sustainability as needed for mechanical and industrial engineers
- To understand the significance and use of the various tools in the field

Course Structure: This course will be delivered entirely online through the course management system Blackboard. You will need your MyUT Web Portal ID to login to the course from the Blackboard Homepage (https://blackboard.utoledo.edu/). In Blackboard, you will access online lessons, course materials, and additional resources. Activities will consist of blogs, discussion forums, email, journaling, blogging, and web posting.

Technical Assistance: If you need technical assistance at any time during the course or to report a problem you can visit www.utoledo.edu/dl or email utlv@utoledo.edu.

Grading:

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<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Midterm Exam</td>
<td>20%</td>
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<tr>
<td>Final Exam</td>
<td>20%</td>
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<tr>
<td>Weekly Blogs, Quizzes, and Assignments</td>
<td>20%</td>
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<tr>
<td>Book Report</td>
<td>20%</td>
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<tr>
<td>Research Report</td>
<td>20%</td>
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<tr>
<td>TOTAL</td>
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- Any act of dishonesty may result in a grade of ‘F’ or a dismissal from the class in accordance with University of Toledo and College of Engineering academic policy.
- In terms of grading, graduate students will complete higher level exams and homework assignments that access a more in depth understanding of the material versus the undergraduate course.

Grading Scale:  

- 100 – 90 A/A-
- 89 – 80 B+/B-
- 79 – 70 C+/C-
- 69 – 60 D+/D-
- 59 – 0 F
Weekly Assignments: Assignments will be assigned weekly and will typically be due one week later on the date specified.

Weekly Blog Posting: A blog question will be posted at the beginning of each week related to a sustainability issue or concept. Each student is required to respond to the Blog questions by Friday of the same week.

Research Report: A six to ten page research paper is due (double spaced including figures/diagrams/references). Papers must have at least three references from journals, newspapers, or internet sources. The papers are worth 20% of your grade. Please select a topic from the list below or contact me for additional topic approval.

Potential Topics (as related to mechanical or industrial engineering):
- Solid waste minimization and recycling
- Energy conservation in manufacturing
- Green product and process design optimization
- Product-based Life cycle analysis
- De-manufacturing
- Environmental auditing
- Environmental regulations
- Economics of sustainability
- Six sigma and lean manufacturing as related to green engineering
- Global warming/greenhouse gas emissions
- An approved topic in sustainability that interests you

Book Report: A book report is due related to a sustainability book for your choice. The book report is worth 20% of your grade. Possible options are list below (other options are possible with instructor approval).

- Animal Farm by George Orwell
- Ishmael by Daniel Quinn
- Into the Wild by Jon Krakauer
- Green to Gold by Andrew Winston
- Walden by Henry David Thoreau
- Global Warming: The Solution and the Politics: Hell and High Water by J. Romm
- Natural Capitalism: Creating the Next Industrial Revolution by Paul Hawken
- A New Earth: Awakening to Your Life’s Purpose by Eckhart Tolle
- The World is Flat by Thomas Friedman
- Utopia by Thomas More

Examinations: Exams will NOT be comprehensive and will be electronic. Make-up exams will not be given except in extreme documented circumstances and then only upon arrangement made prior to the scheduled examination.

If you have any questions or comments regarding the class or course material please see me or email me. I will be more than happy to discuss these issues with you.
Course Policies

Participation: Students are expected to participate in all online activities as listed on the course calendar. The course will use the Blackboard tracking tool, discussions, chat sessions, and group work, to monitor each student’s participation in the course.

Build Rapport: If you find that you have any trouble keeping up with assignments or other aspects of the course, make sure you let your instructor know as early as possible. As you will find, building rapport and effective relationships are key to becoming an effective professional. Make sure that you are proactive in informing your instructor when difficulties arise during the semester so that we can help you find a solution.

Complete Assignments: All assignments for this course will be submitted electronically through Blackboard unless otherwise instructed. Assignments must be submitted by the given deadline or special permission must be requested from instructor before the due date. Extensions will not be given beyond the next assignment except under extreme circumstances.

All discussion assignments must be completed by the assignment due date and time. Late or missing discussion assignments will affect the student’s grade.

Understand When You May Drop This Course: It is the student’s responsibility to understand when they need to consider un-enrolling from a course. The last day to drop this course is May 24, 2013 and the last day to withdraw is July 5, 2013.

Drops and Adds: The last day to add this course is the end of the first week of classes.

Academic Accommodation/Accessibility: The University will make reasonable academic accommodations for students with documented disabilities. Students should contact the Office of Academic Access (Rocket Hall 1820; 419.530.4981; officeofacademicaccess@utoledo.edu ) as soon as possible for more information and/or to initiate the process for accessing academic accommodations.

- If you are registered with the Office of Academic Access, I have received notification regarding your academic accommodations. Please see me as soon as possible to discuss your accommodations and how I may be of assistance to you throughout the course.
- The University of Toledo abides by the Americans with Disabilities Act (equal and timely access) and Section 504 of the Rehabilitation Act of 1973 (non-discrimination on the basis of disability). If you have a disability and are in need of academic accommodations but have not yet registered with the Office of Academic Access (OA) (Rocket Hall 1820; 419.530.4981; officeofacademicaccess@utoledo.edu ) please contact the office as soon as possible for more information and/or to initiate the process for accessing academic accommodations. I also encourage students with disabilities receiving accommodations through OA to discuss these with me, after class or during my office hours, so that I may be better informed on how to assist you during the semester.
• Any student with a documented disability receiving academic accommodations through the Office of Academic Access is requested to speak with me as soon as possible. All discussions will remain confidential and are intended to assist me with ensuring your accommodations are appropriately implemented throughout the course.
• Students with disabilities who believe they may need academic accommodations are encouraged to speak with me after class and will need to contact the Office of Academic Access (Rocket Hall 1820; 419.530.4981 officeofacademicaccess@utoledo.edu) as soon as possible for more information and/or to initiate the process for accessing academic accommodations.

**Academic Honesty:** Unless authorized by your instructor, you are expected to complete all course assignments, including homework, lab work, quizzes, tests, and exams, without assistance from any source. You are expected to develop original work for this course; therefore, you may not submit course work you completed for another course to satisfy the requirements for this course. Students who violate the academic integrity rules may receive a penalty grade, including a failing grade on the assignment or in the course. Contact your instructor if you are unsure about the appropriateness of your course work.