Office of the Registrar
FORM 40G REV. 4/13

PURDUE UNIVERSITY
REQUEST FOR ADDITION, EXPIRATION, OR REVISION OF A GRADUATE COURSE
(50000-60000 LEVEL)

DEPARTMENT: Environmental and Ecological Engineering EFFECTIVE SESSION: Fall 2016

INSTRUCTIONS: Please check the items below which describe the purpose of this request.

- [x] 1. New course with supporting documents (complete proposal form)
- [ ] 2. Add existing course offered at another campus
- [ ] 3. Expiration of a course
- [ ] 4. Change in course number
- [ ] 5. Change in course title
- [ ] 6. Change in course credit/type
- [ ] 7. Change in course attributes
- [ ] 8. Change in instructional hours
- [ ] 9. Change in course description
- [ ] 10. Change in course requisites
- [ ] 11. Change in semesters offered
- [ ] 12. Transfer from one department to another

PROPOSED:		EXISTING:	
Subject Abbreviation	EEE	Subject Abbreviation	
Course Number	56000	Course Number	
Long Title	Environmental and Ecological Engineering In-Context		
Short Title	Env & Ecol Engr In-Context		

Abbreviated title will be entered by the Office of the Registrar if omitted. (30 CHARACTERS ONLY)

TERMS OFFERED
Check All That Apply:
[x] Fall [x] Spring [ ] Summer

CAMPUS(ES) INVOLVED
- [ ] Calumet
- [ ] Cont Ed
- [ ] Ft. Wayne
- [ ] Indianapolis
- [ ] N. Central
- [ ] Tech Statewide
- [x] W. Lafayette

CREDIT TYPE
1. Fixed Credit: Cr. Hrs.:
2. Variable Credit Range:
   Minimum Cr. Hrs: 1
   (Check One) To [x] Or [ ]
   Maximum Cr. Hrs: 3
3. Equivalent Credit: Yes [ ] No [ ]
4. Thesis Credit: Yes [ ] No [ ]

COURSE ATTRIBUTES: Check All That Apply
1. Pass/Not Pass Only [ ]
2. Satisfactory/Unsatisfactory Only [ ]
3. Repeatable [x]
   Maximum Repeatable Credit: 9
4. Credit by Examination [ ]
5. Fees [ ] Coop [ ] Lab [ ] Rate Request
   Include comment to explain fee
6. Registration Approval Type
   Department [ ] Instructor [x]
7. Variable Title [x]
8. Honors [ ]
9. Full Time Privilege [ ]
10. Off Campus Experience [ ]

Schedule Type	Minutes Per Mtg	Meetings Per Week	Weeks Offered	% of Credit Allocated
Lecture	0-110	0-2	5 or 15	0-100%
Recitation				
Presentation				
Laboratory	110-170	1-2	5 or 15	33-100%
Lab Prep				
Studio				
Distance				
Clinic				
Experiential				
Research				
Ind. Study				
Pract/Observ				

Cross-Listed Courses

COURSE DESCRIPTION (INCLUDE REQUISITES/RESTRICTIONS):
An introduction to current challenges and issues in Environmental and Ecological Engineering (EEE) applications. Topics will change from semester to semester and will be announced in ad-vance. The list of possible topics includes current events, emerging challenges, adaptation to new regulations, innovative environmental and ecological engineering processes, life-cycle impacts of manufactured products, and sustainable management of industrial waste streams.

*COURSE LEARNING OUTCOMES:
1. An ability to design experiments and evaluate experimental data, error and variability. 2. An understanding of environmental systems and processes
3. An ability to communicate professionally to the public about complex technical issues. 4. An ability to develop management strategies for environmental problems.

Calumet Department Head	Date	Calumet School Dean	Date	Calumet Director of Graduate Studies	Date
Fort Wayne Department Head	Date	Fort Wayne School Dean	Date	Fort Wayne Director of Graduate Studies	Date
Indianapolis Department Head	Date	Indianapolis School Dean	Date	IUPUI Associate Dean for Graduate Education	Date
North Central Department Head	Date	North Central School Dean	Date	North Central Director of Graduate Studies	Date
West Lafayette Department Head	2/22/16 Date	West Lafayette College/School Dean	4/16/16 Date	Date Approved by Graduate Council	Date
Graduate Area Committee Convener	Date	Graduate Dean	Date	Graduate Council Secretary	Date
				West Lafayette Registrar	Date

OFFICE OF THE REGISTRAR

Engineering Faculty Document No. 63-16
January 11, 2016

TO: The Faculty of the College of Engineering
FROM: The Division of Environmental and Ecological Engineering
SUBJECT: New Graduate Course, EEE 56000, Environmental and Ecological Engineering In-Context

The Faculty of the Division of Environmental and Ecological Engineering has approved the following new course. This action is now submitted to the Engineering Faculty with a recommendation for approval.

EEE 56000: Environmental and Ecological Engineering In-Context
Sem. 1, 2, Lecture 0-3, Laboratory 0-6, Credits 1-3
Pre-requisites: Senior Undergraduate or Graduate Standing.

Course description:
An introduction to current challenges and issues in Environmental and Ecological Engineering (EEE) applications. Topics will change from semester to semester and will be announced in advance. The list of possible topics includes current events, emerging challenges, adaptation to new regulations, innovative environmental and ecological engineering processes, life-cycle impacts of manufactured products, and sustainable management of industrial waste streams.

Reasons:
This variable-credit course is planned as a core course in the EEE graduate curriculum. Understanding of current applications of principles and processes is a foundational component of Environmental and Ecological Engineering professional preparation. Students will be required to complete a minimum of 6 credits of this course to earn a graduate EEE degree. Students will typically take this course during their first year in the Master's degree program. PhD students who did not meet this requirement as part of their Master's program are required to meet this requirement as part of their Plan-of-Study. The course would be beneficial to advanced undergraduate students. Students who complete unique offerings in excess of 6 credits will be allowed to count the additional credits on their Plan-of-Study.

Course Attributes: Variable Title

Repeatable for Additional Credit: Yes – May be repeated for up to 9 credits

John W. Sutherland, Fehsenfeld Family Head
Division of Environmental and Ecological Engineering

EEE 56000: Environmental and Ecological Engineering In-Context (EFD 63-16)

Level: Graduate

Potential Topics:
Advanced oxidation and disinfection
Air Pollution Control and Air Quality Management
Aquatic chemistry
Atmospheric chemistry
Basic probability and statistics
Dynamic system interactions and modeling tools
EIO-LCA
Environmental modeling
Experimental design principles
Global energy, carbon footprints, climate change
Global water, footprints, land use, carrying capacity
Green chemistry
Hydrology and hydrogeology
Industrial ecology and Eco-design
Industrial sectors, interactions and supply chains
Life cycle assessment and modeling tools
Mass transport
Material and energy flow analysis
Membrane processes
Multi-criteria decision making
Natural and engineered biological processes
Particle separation
Phase transfer
Product life cycles, remanufacturing, recycling and EOL
Reactor theory
Risk Assessment and Toxicology
Soil and groundwater chemistry
Solid Waste and Hazardous Waste
Sustainability concepts, ethics/eudemonology
Systems thinking tools

Course Objectives:
Students successfully completing the Environmental and Ecological Engineering In-Context will demonstrate:
1. An ability to design experiments and evaluate experimental data, error and variability
2. An understanding of environmental systems and processes
3. An ability to communicate professionally to the public about complex technical issues
4. An ability to develop management strategies for environmental problems.

Textbooks and readings:
There is no textbook for this course. Readings will be compiled from peer-reviewed literature and custom written lab manuals.

Previous Teaching:
This course is now being offered for the first time as 3 sequential 1-credit five week modules in Spring 2016 as EEE 59500. Each module is team taught by two EEE faculty.

1. Jan 11, 2016 - Feb 14, 2016 – “Direct Potabilization”
2. Feb 15, 2016 - Mar 27, 2016 – “Recover Value from Solid Waste”
3. Mar 28, 2016 - Apr 30, 2016 – “Discovering Green Chemistry”

Office of the Registrar
FORM 40G REV. 4/13

PURDUE UNIVERSITY
REQUEST FOR ADDITION, EXPIRATION,
OR REVISION OF A GRADUATE COURSE
(50000-60000 LEVEL)

DEPARTMENT: Environmental and Ecological Engineering EFFECTIVE SESSION: Fall 2016

INSTRUCTIONS: Please check the items below which describe the purpose of this request.

- [x] 1. New course with supporting documents (complete proposal form)
- [ ] 2. Add existing course offered at another campus
- [ ] 3. Expiration of a course
- [ ] 4. Change in course number
- [ ] 5. Change in course title
- [ ] 6. Change in course credit/type
- [ ] 7. Change in course attributes
- [ ] 8. Change in instructional hours
- [ ] 9. Change in course description
- [ ] 10. Change in course requisites
- [ ] 11. Change in semesters offered
- [ ] 12. Transfer from one department to another

PROPOSED:		EXISTING:	
Subject Abbreviation	EEE	Subject Abbreviation	
Course Number	56000	Course Number	
Long Title	Environmental and Ecological Engineering In-Context		
Short Title	Env & Ecol Engr In-Context		

Abbreviated title will be entered by the Office of the Registrar if omitted. (30 CHARACTERS ONLY)

TERMS OFFERED (Check All That Apply): [x] Fall [x] Spring [ ] Summer

CAMPUS(ES) INVOLVED: [ ] Calumet [ ] N. Central [ ] Cont Ed [ ] Tech Statewide [ ] Ft. Wayne [x] W. Lafayette [ ] Indianapolis

CREDIT TYPE

1. Fixed Credit: Cr. Hrs.
2. Variable Credit Range:
   Minimum Cr. Hrs: 1
   (Check One) To [x] Or [ ]
   Maximum Cr. Hrs: 3
3. Equivalent Credit: Yes [ ] No [ ]
4. Thesis Credit: Yes [ ] No [ ]

COURSE ATTRIBUTES: Check All That Apply

1. Pass/Not Pass Only [ ]
2. Satisfactory/Unsatisfactory Only [ ]
3. Repeatable [x]
   Maximum Repeatable Credit: 9
4. Credit by Examination [ ]
5. Fees [ ] Coop [ ] Lab [ ] Rate Request
   Include comment to explain fee
6. Registration Approval Type: Department [ ] Instructor [ ]
7. Variable Title [x]
8. Honors [ ]
9. Full Time Privilege [ ]
10. Off Campus Experience [ ]

Schedule Type	Minutes Per Mtg	Meetings Per Week	Weeks Offered	% of Credit Allocated
Lecture	0-110	0-2	5 or 15	0-100%
Recitation				
Presentation				
Laboratory	110-170	1-2	5 or 15	33-100%
Lab Prep				
Studio				
Distance				
Clinic				
Experiential				
Research				
Ind. Study				
Pract/Observ				

Cross-Listed Courses

COURSE DESCRIPTION (INCLUDE REQUISITES/RESTRICTIONS):
An introduction to current challenges and issues in Environmental and Ecological Engineering (EEE) applications. Topics will change from semester to semester and will be announced in ad-vance. The list of possible topics includes current events, emerging challenges, adaptation to new regulations, innovative environmental and ecological engineering processes, life-cycle impacts of manufactured products, and sustainable management of industrial waste streams.

*COURSE LEARNING OUTCOMES:
1. An ability to design experiments and evaluate experimental data, error and variability. 2. An understanding of environmental systems and processes
3. An ability to communicate professionally to the public about complex technical issues. 4. An ability to develop management strategies for environmental problems.

Calumet Department Head	Date	Calumet School Dean	Date	Calumet Director of Graduate Studies	Date
Fort Wayne Department Head	Date	Fort Wayne School Dean	Date	Fort Wayne Director of Graduate Studies	Date
Indianapolis Department Head	Date	Indianapolis School Dean	Date	IUPUI Associate Dean for Graduate Education	Date
North Central Department Head	Date	North Central School Dean	Date	North Central Director of Graduate Studies	Date
West Lafayette Department Head	12/22/16 Date	West Lafayette College/School Dean	Date	Date Approved by Graduate Council	Date
Graduate Area Committee Convener	Date	Graduate Dean	Date	Graduate Council Secretary	Date
				West Lafayette Registrar	Date

OFFICE OF THE REGISTRAR

(Grad Form 40G [Excel format] - Does not include the Graduate Council's required supporting document. See pdf version of Form 40G)

Supporting Document to the Form 40G
for a New Graduate Course

To: Purdue University Graduate Council

From: Faculty Member: John W. Sutherland

Department: Environmental and Ecological Engineering

Campus: West Lafayette

Date: February 17, 2016

Subject: Proposal for New Graduate Course

Contact for information if questions arise:
Name: Nina L. Robinson
Phone: 67578
Email: nlrobins@purdue.edu
Address: POTR

Course Subject Abbreviation and Number: EEE 56000

Course Title: Environmental and Ecological Engineering In-Context

Course Description:

An introduction to current challenges and issues in Environmental and Ecological Engineering (EEE) applications. Topics will change from semester to semester and will be announced in advance. The list of possible topics includes current events, emerging challenges, adaptation to new regulations, innovative environmental and ecological engineering processes, life-cycle impacts of manufactured products, and sustainable management of industrial waste streams.

Semesters Offered:

For the benefit of graduate student plan of study development, how frequently will this prototype be offered? Which semesters?
Fall, Spring

A. Justification for the Course:

Provide a complete and detailed explanation of the need for the course (e. g., in the preparation of students, in providing new knowledge/training in one or more topics, in meeting degree requirements, etc.), how the course contributes to

existing majors and/or concentrations, and how the course relates to other graduate courses offered by the department, other departments, or interdisciplinary programs.

Justify the level of the proposed graduate course (500- or 600-level) including statements on, but not limited to: (1) the target audience, including the anticipated number of undergraduate and graduate students who will enroll in the course; and (2) the rigor of the course.

Environmental and Ecological Engineering covers a broad spectrum of applications of principles and processes, and EEE graduate students come to us with an incredible array of backgrounds and interests. To ensure that all EEE students have an in-depth understanding of a range of important current and emerging topics in Environmental and Ecological Engineering, each student will take 6 credits of EEE 56000. Each semester, EEE56000 will consist of three 5-week modules with each module focused on a single topic. Each module will be worth one credit hour, and the topics covered in each semester will be announced in advance. Students, in conjunction with their advisors, will select six modules of greatest interest and value to them. Thus, a student might take 3 modules in each of two semesters or, for example, one module the first semester, three the next semester, and two the semester after that. EEE currently has plans to offer more than a dozen of these modules; three are being offered in Spring 2016 as EEE 59500. These modules will be team taught and the instructional teams are encouraged to reach out to other faculty across campus. For the first module taught this spring the instructional team was Ernest Blatchley (CE/EEE), Maria Sepúlveda (FNR), and Zhi Zhou (CE/EEE).

Much of the information in this document supporting Form 40G for EEE 56000, such as methods of evaluation, grading criteria, methods of instruction, course instructor, and course outline, will vary from module to module. Thus, we will provide a general answer to each question followed by a specific answer for one module so that Graduate Council members can see an example of what we plan to do for each of the modules. Under "Course Outline", we will provide a list of the topics from which the modules will be selected. A syllabus from the module currently being taught will be appended. The module currently being taught is Recovering Value from Solid Waste: Chemical and Biological Approaches.

- This variable-credit course is planned as a core course in the EEE graduate curriculum. Understanding of current applications of principles and processes is a foundational component of Environmental and Ecological Engineering professional preparation. Students will be required to complete a minimum of 6 credits of this course to earn a graduate EEE degree. Students will typically take this course during their first year in the Master's degree program. PhD students who did not meet this requirement as part of their Master's program are required to meet this requirement as part of their Plan-of-Study. The course would be

beneficial to advanced undergraduate students. Students who complete unique offerings in excess of 6 credits will be allowed to count the additional credits on their Plan-of-Study.

- The target audience will be graduate students in EEE and senior undergraduates. We anticipate that the enrollment will vary from 10-20 depending on subject matter. Again, depending on the subject matter the course may be delivered by lecture or laboratory or a combination. The courses will be taught at the graduate level so it is appropriate that it is a 50000 level course. Use the following criteria:
  Graduate Council policy requires that courses at the 50000 level in the Purdue system should be taught at the graduate level and meet four criteria: a) the use of primary literature in conjunction with advanced secondary sources (i.e., advanced textbooks); b) assessments that demonstrate synthesis of concepts and ideas by students; c) demonstrations that topics are current, and; d) components that emphasize research approaches/methods or discovery efforts in the course content area (reading the research, critiquing articles, proposing research, performing research). Such courses should be taught so that undergraduate students are expected to rise to the level of graduate work and be assessed in the same manner as the graduate students.

- Anticipated enrollment
  - Undergraduate 2-5
  - Graduate 10-15

B. Learning Outcomes and Method of Evaluation or Assessment:

Describe the course objectives and student learning outcomes that address the objectives (i.e., knowledge, communication, critical thinking, ethical research, etc.). Expand lists and sub lists as needed.

- Objectives and Student Learning Outcomes

  - An ability to design experiments and evaluate experimental data, error and variability
  - An understanding of environmental systems and processes
  - An ability to communicate professionally to the public about complex technical issues
  - An ability to develop management strategies for environmental problems.

- Methods of Evaluation

  Describe the methods of evaluation or assessment of student learning outcomes. (Include evidence for both direct and indirect methods.) Expand table rows as

needed.

Learning Objective	Methods of Evaluation
o An ability to design experiments and evaluate experimental data, error and variability	This will depend on the instructor. We anticipate that it will be a combination of tests, essays, and in class presentations.
o An understanding of environmental systems and processes	This will depend on the instructor. We anticipate that it will be a combination of tests, essays, and in class presentations.
o An ability to communicate professionally to the public about complex technical issues	This will depend on the instructor. We anticipate that it will be a combination of tests, essays, and in class presentations.
o An ability to develop management strategies for environmental problems.	This will depend on the instructor. We anticipate that it will be a combination of tests, essays, and in class presentations.

- Grading Criteria

Grading criteria (select from checklist); include a statement describing the criteria that will be used to assess students and how the final grade will be determined. Add and delete rows as needed.

This will be a team taught course so the grading criteria will vary by instructor. We anticipate that it will be a combination of tests, essays, and in class presentations.

For the course that is being taught this semester (Recovering Value from Solid Waste) these are the criteria:

Grading Criteria (replace with check for all that apply)	**Weight Toward Final Grade**
Papers and Projects	40%
Homework	35%

Attendance and Class Participation	25%

- Methods of Instruction

  Identify the method(s) of instruction and describe how the methods promote the likely success of the desired student learning outcomes. Add and delete rows as needed.

  This will be a team taught course so the method of instruction will vary. We anticipate that it will be combination of lecture, laboratory, and presentation.

  For the course that is being taught this semester (Recovering Value from Solid Waste) these are the methods of instruction:

Hours per Week	**Method of Instruction** (replace with check for all that apply)	**Contribution to Outcomes**
3	Lecture	For this course only lecture will be used

C. Prerequisite(s):

List prerequisites and/or experiences/background required. If no prerequisites are indicated, provide an explanation for their absence. Add bullets as needed.

- No prerequisites are required. The reason for this is that this is an introduction to areas in environmental and ecological engineering. All EEE graduate students will be required to take this class.
- Must be a graduate student or advanced undergraduate.

D. Course Instructor(s):

Provide the name, rank, and department/program affiliation of the instructor(s). Is the instructor currently a member of the Graduate Faculty? (If the answer is no, indicate when it is expected that a request will be submitted.) Add rows as needed.

Any graduate faculty member will be allowed to teach this course. The main

instructors will be faculty associated with EEE but if needed graduate faculty from other academic units will be involved.

For the course that is being taught this semester (Recovering Value from Solid Waste) the instructors are:

Name	Rank	Dept.	Graduate Faculty or expected date
Inez Hua	Professor	CE/EEE	Yes
Michael Mashtare	Assistant Professor	AGRY/EEE	March 2016

E. Course Outline:

Provide an outline of topics to be covered and indicate the relative amount of time or emphasis devoted to each topic. If laboratory of field experiences are used to supplement a lecture course, explain the value of the experience(s) to enhance the quality of the course and student learning. For special topics courses, include a sample outline of a course that would be offered under the proposed course. **(This information must be listed and may be copied from syllabus).**

Possible topic areas for modules
Advanced oxidation and disinfection
Air Pollution Control and Air Quality Management
Aquatic chemistry
Atmospheric chemistry
Basic probability and statistics
Dynamic system interactions and modeling tools
EIO-LCA
Environmental modeling
Experimental design principles
Global energy, carbon footprints, climate change
Global water, footprints, land use, carrying capacity
Green chemistry
Hydrology and hydrogeology
Industrial ecology and Eco-design
Industrial sectors, interactions and supply chains
Life cycle assessment and modeling tools
Mass transport
Material and energy flow analysis
Membrane processes
Multi-criteria decision making
Natural and engineered biological processes
Particle separation
Phase transfer
Product life cycles, remanufacturing, recycling and EOL
Reactor theory

Risk Assessment and Toxicology
Soil and groundwater chemistry
Solid Waste and Hazardous Waste
Sustainability concepts, ethics/eudemonology
Systems thinking tools

For the course that is being taught this semester (Recovering Value from Solid Waste) this is the course outline:

Course overview and introduction to solid waste
Life-cycle thinking, in-depth discussion of case studies, introduction to course project
Data, analysis, methodology
Cost benefit and pro/con analysis
Global context
Final project and poster presentation due; peer and faculty feedback.

F. Reading List (including course text):

A primary reading list or bibliography should be limited to material the students will be required to read in order to successfully complete the course. It should not be a compilation of general reference material.

A secondary reading list or bibliography should include material students may use as background information.

- Primary Reading List
    - This is a team taught course so this will vary by instructor. For the course that is being taught this semester (Recovering Value from Solid Waste) reading assignments will be announced before each lecture and students are expected to attend class prepared to discuss the reading(s).

- Secondary Reading List
    - This is a team taught course so this will vary by instructor. See above for the course that is being taught this semester (Recovering Value from Solid Waste)

G. Library Resources

Describe any library resources that are currently available or the resources needed to support this proposed course.

- This is a team taught course so this will vary by instructor. For the course that is being taught this semester (Recovering Value from Solid Waste) no library resources are on reserve but the students will be expected to obtain data accessible electronically from the library resources at Purdue.

H. Course Syllabus

(While not a necessary component of this supporting document, an example of a course syllabus is available, for information, by clicking on the link below, which goes to the *Graduate School's Policies and Procedures Manual for Administering Graduate Student Program.*
See Appendix K.

This course is being taught this semester and the syllabus for it is enclosed. This is an example syllabus. We anticipate that each course will be different.

http://www.purdue.edu/gradschool/faculty/documents/Graduate_School_Policies_and_Procedures_Manual.pdf

EEE 59500 002 – Spring 2016

Recovering Value from Solid Waste: Chemical and Biological Approaches - 14883

Course Information and Syllabus

I. Administrative

Course Instructors

Dr. Inez Hua
Professor of Civil Engineering and Environmental and Ecological Engineering
Lyles School of Civil Engineering and the Division of Environmental and Ecological Engineering
Office: HAMP 2127
Phone: 765-494-2409
Electronic mail: hua@purdue.edu
Office hours: Wed.: 1:30 - 2:30 pm and Tue: 1:00 – 2:00 pm or by appointment.

Dr. Michael L. Mashtare Jr.
Assistant Professor in Agronomy and Environmental and Ecological Engineering
Office: LILY B-472
Phone: 765-494-1840
Electronic mail: mmashtare@purdue.edu
Office hours: by appointment

Lecture time and location: Tues. and Thurs. 12:00 pm -1:15 pm; Physics Building 201
February 15, 2016 - March 27, 2015

II. Instructional Resources

a) The instructors
b) Course notes
c) Required readings
d) Course handouts
e) Blackboard course pages
f) Engineering Library reserves and other material

III. Student Performance and Work

The plus/minus grading system applies in this course (e.g., possible "B" grades are: B+, B, and B-).

Student performance will be evaluated as follows:

a) Homework assignments: 35%
b) Final project and poster presentation: 40%
c) Class participation: 25%

Students are expected to actively participate in each lecture, through questions, discussion, and written assignments. **Proof of course evaluation submission is a required component of the class participation grade.**

Reading assignments will be announced before each lecture. Students are expected to attend class prepared to discuss the reading(s).

IV. Course Outline

Week: Lecture Dates (Lecture number)	**Main Topics**
1: 2/16, 2/18 (1, 2)	Course overview and introduction to solid waste
2: 2/23, 2/25 (3, 4)	Life-cycle thinking, in-depth discussion of case studies, introduction to course project
3: 3/1; 3/3 (5,6)	Data, analysis, methodology Cost benefit and pro/con analysis
4: 3/8, 3/10 (7-8)	Global context
5: 3/15, 3/17	*No class. Spring break.*
6: 3/22, 324 (9,10)	Final project and poster presentation due; peer and faculty feedback.

A deliverable for the final project is a team poster presentation, to be presented at "Science on Tap" on March 31, 2016, at 6:15 pm. All students are expected to attend the presentation.

Any student who needs an accommodation based on the impact of a disability should contact the instructors to discuss specific needs. Please contact the Disability Resource Center in room 830 Young Hall to coordinate reasonable accommodations for students with documented disabilities.

V. Course Motivation and Objectives

The economic and functional value residing in solid 'wastes' are often overlooked. Students will integrate life-cycle thinking with fundamental science to explore or develop approaches for the enhanced recovery of value from solid waste.

VI. Academic dishonesty

Dishonest conduct as defined in Sections B.2.1 and B.2.2 of the University Regulations will be reported to the Dean of Students. Other penalties will also apply, depending on the nature of the misconduct.

> Excerpt from the Purdue University policy:
> *Purdue prohibits "dishonesty in connection with any University activity. Cheating, plagiarism, or knowingly furnishing false information to the University are examples of dishonesty." [Part 5, Section III-B-2-a, University Regulations] Furthermore, the University Senate has stipulated that "the commitment of acts of cheating, lying, and deceit in any of their diverse forms (such as the use of substitutes for taking examinations, the use of illegal cribs, plagiarism, and copying during examinations) is dishonest and must not be tolerated. Moreover, knowingly to aid and abet, directly or indirectly, other parties in committing dishonest acts is in itself dishonest." [University Senate Document 72-18, December 15, 1972]*

Please also refer to Purdue's student guide for academic integrity:
http://www.purdue.edu/odos/aboutodos/academicintegrity.php

VII. Emergency Planning

Purdue's policy:
"In the event of a major campus emergency, course requirements, deadlines and grading percentages are subject to changes that may be necessitated by a revised semester calendar or other circumstances beyond the instructor's control. Relevant changes to this course will be posted onto the course website or can be obtained by contacting the instructors or TAs via email or phone. You are expected to read your @purdue.edu email on a frequent basis."

This syllabus is subject to change. The most current version will be posted on the course website on Blackboard.

CELL PHONES: Unless being used as a tool in the class environment (e.g., research, directed searches), cell phone use (e.g., texting, phone calls) is not permitted in class.