TO: The Faculty of the College of Engineering

FROM: The Faculty of the Division of Environmental and Ecological Engineering

RE: Cross-listing of AGRY 54400 with EEE 54400, Environmental Organic Chemistry

The Academics Committee of the Division of Environmental and Ecological Engineering has approved the establishment of new course numbers, EEE 54400, and the permanent cross-listing of the course with the existing course AGRY 54400. Course attributes, descriptions, and pre-requisites are not changing, nor is the content or the syllabus of either course changing. This action is now submitted to the Engineering Faculty with a recommendation for approval.

EEE 54400 Environmental Organic Chemistry
Terms offered 2 Lecture, Cr. 3.
Cross-listed with AGRY 54400, Environmental Organic Chemistry

Description: Learn the fundamental properties and processes responsible for the environmental fate of organic contaminants in aqueous and nonaqueous-phase liquids (e.g., fuels, chlorinated solvents, industrial and manufacturing residuals), and soils. Both conceptual and theoretical aspects will be covered as well as estimation, correlation, and measurement techniques.

Reason: We are seeking the cross-listing of this course because the faculty member who typically teach this course is transitioning from a 100% appointment in Agronomy to a 75/25 joint appointment between AGRY and EEE. The course is typically offered in the spring semester and, in light of the faculty transfer, AGRY and EEE have agreed to share responsibility and provide equal resources (including TAs) toward the offering of the course. It is therefore appropriate for the course to be cross-listed. In addition this will provide appropriate recognition of the teaching contribution for the faculty member.

Submitted by:

John W. Sutherland

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Fehsenfeld Family Head
Environmental and Ecological Engineering

Cross-listed AGRY courses for Fall 2019 and Spring 2020

Course	Cross-list	Title	Semester
AGRY 12500	NRES, FNR, EAPS	Environmental Scienc & Conserv	Fall, Spring
AGRY 25500	NRES	Soil Science	Fall, Spring
AGRY 38500	NRES	Environ Soil Chemistry	Fall
AGRY 43100	EAPS 42100	Atmos Thermodynamics	Fall
AGRY 43200	EAPS 42200	Atmos Dynamics I	Fall, Spring
AGRY 44100	EAPS 43100	Synoptic Lab I	Fall
AGRY 44200	EAPS 43200	Synoptic Lab II	Fall, Spring
AGRY 44400	EAPS 43400	Weather Anly Forecast	Fall
AGRY 45000	NRES	Soil Conser Water Mgt	Fall
AGRY 54500	CE 59700	Remote Sens Land Resrc	Fall
AGRY 59800	CHE 59700, ECE 56500, ABE 59100	Food & Energy Farms	Fall
AGRY 59800	AGEC 53200, NUTR 53200	World Food Problems	Fall
AGRY 21000	HORT	Fund Turfgrass Culture	Spring
AGRY 21100	HORT	Turfgrass Culture Lab	Spring
AGRY 43300	EAPS 42300	Atmos Dynamics II	Spring
AGRY 44300	EAPS 43300	Synoptic Lab III	Spring
AGRY 53500	EAPS 52500	Boundary Layer Meteor	Spring

Syllabus from Spring 2020 follows (prior to COVID-19 modifications to syllabus)

AGRY 544 ***ENVIRONMENTAL ORGANIC CHEMISTRY Spring 2020*** *(CRN 21970)*

Lectures: MWF, 1:30-2:20pm; G-420 Lilly Hall

Instructor: Linda S. Lee 494-8612 (Voice Mail)
Office: B-480 Lilly Hall ((basement under stairwell closest to the corner of State & Russell)
EMAIL: lslee@purdue.edu

Office Hours: Appointments can be made via email or voice mail, but allow sufficient time for me to confirm. **Email is a good mechanism for questions/answers.** (Note- this yeat, I have another class after this one most of the time)

TEXT: "***Environmental Organic Chemistry***" R.P. Schwarzenbach, P.M. Gschwend, and D. M. Imboden, 3rd edition, 2017. Wiley-Interscience. **(On-line accessible through libraries)** Also for additional resources go to **http://www.wiley.com//legacy/wileychi/schwarzenbach/ - password: physical**

Other materials: Approximately 25% of the material presented in this course may be derived from other materials or research from my group which will be provided as needed in class or placed on Blackboard.

Course Evaluation:

Homework/Case Study Participation	35%	(8 to 10 study assignments plus case studies)
Exams (2)	40%	(In class)
Final	25%	(Likely take home)

Grade-scale: A+ (97-100); A (90-96); B+ (87-89); B (80-86); C+ (77-79); C (70-76); D (60-69); F (≤ 59)

Course Expectations: You are expected to turn in your assignments in a timely manner; abuse of grace time may result in a grade deduction for that assignment. You are expected to come to class prepared especially when assignments are followed up with in-class activities. You are expected to be an active participant in class and within your designated group during group activities.

Course Objective:
Learn the fundamental properties and processes responsible for the environmental fate of organic contaminants in aqueous and nonaqueous-phase liquids (e.g., fuels, chlorinated solvents, industrial and manufacturing residuals), and soils. Both conceptual and theoretical aspects will be covered as well as estimation, correlation, and measurement techniques.

Intended Audience: Designed as an advanced course for students in any field of environmental science where understanding and predicting the environmental fate of organic chemicals is desired.

On Blackboard

- Classroom Safety Briefing
- Copies of journal articles and book chapters referenced in class as available
- Keys to homework and exams as available.

Academic Honesty and Integrity: Purdue students should maintain the Purdue Honors Pledge **"As a boilermaker pursuing academic excellence, I pledge to be honest and true in all that I do. Accountable together - we are Purdue."** On most assignments you may work together unless specified otherwise; however, it is not acceptable for students to hand in identical assignments. **Copying** another student's work or a published author's work is **NEVER acceptable**. Submitting someone else's work as your own, as well as work you have previously used in another class is also **not acceptable**. See http://www.purdue.edu/ODOS/adminstration/integrity.htm for a guide to academic integrity posted by the Dean of Students.

Academic integrity is one of the highest values that Purdue University holds. Individuals are encouraged to alert university officials to potential breeches of this value by either emailing integrity@purdue.edu or by calling 765-494-8778. While information may be submitted anonymously, the more information that is submitted provides the greatest opportunity for the university to investigate the concern.

Other Important things for optimizing your college success:

Being part of a community of respect: Purdue University is committed to maintaining a community which recognizes and values the inherent worth and dignity of every person; fosters tolerance, sensitivity, understanding, and mutual respect among its members; and encourages each individual to strive to reach his or her own potential. In pursuit of its goal of academic excellence, the University seeks to develop and nurture diversity. The University believes that diversity among its many members strengthens the institution, stimulates creativity, promotes the exchange of ideas, and enriches campus life. Purdue's nondiscrimination policy can be found at: http://www.purdue.edu/purdue/ea_eou_statement.html.

CAPS Information: Purdue University is committed to advancing the mental health and well-being of its students. If you or someone you know is feeling overwhelmed, depressed, and/or in need of support, services are available. For help, such individuals should contact Counseling and Psychological Services (CAPS) at (765)494-6995 and http://www.purdue.edu/caps/ during and after hours, on weekends and holidays, or through its counselors physically located in the Purdue University Student Health Center (PUSH) during business hours.

Disability Resource Center (DRC): DRC is a resource for students and instructors. Students may present a "Letter of Accommodation" to you at any point in the semester. Should you have questions about accommodations, please contact the DRC at: 494-1247. You may also visit the DRC at drc@purdue.edu.

Emergency Preparedness Information

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. Here are ways to get information about changes in this course in order of priority.

- Blackboard learn
- Email me lslee@purdue.edu
- Call me (765) 494-8612 (office), (765) 414-3086 (cell)

REMEMBER, WHEN YOU HEAR:

- ALL HAZARDS SIRENS: immediately seek shelter (Shelter-In-Place) in a safe location within closest facility.
- FIRE ALARMS: immediately evacuate the building and move to a safe location.

In both cases, you should solicit additional clarifying information by all possible means: Purdue Homepage, TV, radio, email, etc.

Links to information about ongoing emergencies:

- On campus emergency - http://www.purdue.edu
  Allow at least 15 minutes for information to be posted.
- Local news - http://www.wlfi.com and http://www.jconline.com
- Cell phones - http://www.purdue.edu/securepurdue/
  Cell phone emergency text messages will be sent to those signed up for them.

- To report an emergency, call 911. To obtain updates regarding an ongoing emergency, sign up for Purdue Alert text messages, view www.purdue.edu/ea.
- There are nearly 300 Emergency Telephones outdoors across campus and in parking garages that connect directly to the PUPD. If you feel threatened or need help, push the button and you will be connected immediately.
- If we hear a fire alarm during class we will immediately suspend class, evacuate the building, and proceed outdoors. Do not use the elevator.
- If we are notified during class of a Shelter in Place requirement for a tornado warning, we will suspend class and shelter in the basement of Lilly Hall.
- If we are notified during class of a Shelter in Place requirement for a hazardous materials release, or a civil disturbance, including a shooting or other use of weapons, we will suspend class and shelter in the classroom, shutting the door and turning off the lights.
- Please review the Emergency Preparedness website for additional information. http://www.purdue.edu/ehps/emergency_preparedness/index.html

AGRY 54400 *ENVIRONMENTAL ORGANIC CHEMISTRY*
Spring 2020 Syllabus

*This syllabus is to serve as a **general guide** for the time frame for the topics to be covered in this course. There may be some changes and rearranging of topics; **however, exam dates are not expected to change**. Also italicized dates are times when I will be on travel, thus lectures may be done by other faculty, delivered via the web, or be pre-recorded with an activity planned for in-class.*

Week #	Class Dates	Topic (associated Chapters)
1	January 13, 15, 17	Overview, Introduction to Environmental Organic Chemicals, & Nomenclature (Chapters 1 & 2)
2	January 22, 24 ***20th – Martin Luther King Holiday***	More on Anthropogenic Organic Chemicals (Chapter 3) Partitioning, Molecular Interactions, and Thermodynamics (Chapter 7.1, 4.1, & 4.2)
3	January 27, 29, *31*	
4	Feb 3, 5, 7	Vapor Pressure (Chapter 8)
5	*February 10, 12, 14*	Activity Coefficients, Solubility, and Air-water Partitioning (Chap. 9)
6	February 17, 19, 21	Finish Chapter 9 Organic Liquid-Air and Organic Liquid -Water Partitioning (Chap 10)
7	February 24, 26, **28*** ***Exam #1**	Finish Chapters 10 ***Exam on Feb. 28st** will cover HW1-3 & lectures through Feb. 19th
8	March 2, 4, 6	Soil Clay Minerals & Soil Organic Matter (2 Lectures, Supp. Mat.) Sorption Isotherms and Sorption Models (Chapter 12)
9	March 9, *11*, 13	Sorption Isotherms and Sorption Models (continued, Chap 12) Sorption Involving Primarily Organic Matter (Chapter 13.1 & 13.2)
10	March 16 – 21	**SPRING VACATION**
11	*March 23, 25,* 27	Ionizable Organics: Speciation & Phase Partitioning (4.3 & 13.3)
12	March 30, April 1, 3	Organic acid and organic base sorption (Chapters 4.4 & 14 plus other material) and overall review on sorption of ionizables
13	April **6***, 8, 10	HOC Sorption Involving Primarily Inorganic Surfaces (Chap. 11) NAC Case Study
14	April 13, 15, 17	Partitioning to Biota (Chap. 16) ***Exam on April 10th** will cover HW 4 & 6, lectures through April 3rd
15	April 20, 22, 24	Organic Transformation Reactions (Chapter 21) and case studies Abiotic transformation (Chapters 22-25) and case studies
16	April 27, 29, May 1	Biotransformation (Chapter 26) and case studies

*** Cumulative Final** (Typically a take home given to you the week before finals and due on scheduled final exam time or no later than Friday noon of final exam week, whichever comes last)