MIEH 691: UMD Global STEWARDS: Project-Based Data Practicum at the Nexus of Food, Energy, and Water (FEWS) Systems

Term: Fall 2020  
Credits: 3  
Course Dates: Aug 31, 2020 – Dec 14, 2020  
Course Times: Wednesdays 2:00 – 4:45pm  
Class Zoom Meeting ID: XXX-XXX-XXX  
Class Zoom Passcode: XXX-XXX-XXX

Course Description  
This course is framed around a range of food-energy-water (FEW) systems challenges from local to global scales. During the semester, students will gain real-world experience by participating in the conceptualization and/or conduct of an interdisciplinary FEW systems project. Projects may employ engineering, life sciences, epidemiological or policy approaches; earth system sciences frameworks; computational methods; and/or other innovative approaches. Through this work, students will gain hands-on experience in study design, research methods, and data analysis across varying FEW disciplines. Each student will bring a diverse set of expertise to the projects, creating a microcosm for interdisciplinary team science. During the course, students will have the opportunity to refine oral and written communication skills, including team writing. The deliverable for the course may include a grant proposal, a manuscript, a FactSheet, an Op-Ed, or another actionable type of science/policy writing. This is a required class for the UMD Global STEWARDS Program and is currently only open to UMD Global STEWARDS Fellows.

Course Pre-requisites:  
Required: Graduate status, permission of the instructor, and completion of MEIH 690.

Course Learning Objectives  
After successfully completing this course, students will be able to:

- Develop a deeper understanding of interdisciplinary food, energy and water (FEW) systems
- Design and execute a FEW system project, with data analysis and written outputs as a member of a multidisciplinary team.
- Create a product that analyzes and/or offers solutions to FEW challenges.
- Analyze the breadth of data management and data presentation styles within the FEW nexus
- Evaluate the effect of scales (local and global) on FEW system analyses and outputs
- Learn the art of working in an online group to create presentation and written material.

Required Resources  
- Course Website: elms.umd.edu
Course Structure
This course has one live-session via Zoom that is mandatory (Wednesdays). You do not have to be in a specific location to participate; however, you must have access to a full-screen computer or tablet for each live Zoom session. (If you use a tablet for the live session, you must be comfortable typing responses on it.) The online nature of this class will push you to take an active role in the learning process. You will do this by engaging and collaborating with other students and the instructor on a regular basis both, in live sessions, as well as through group work and activities outside the Zoom time.

Tips for Success in an Online Course

1. **Participate.** Discussions and group work are a critical part of the course. You can learn a great deal from discussing ideas and perspectives with your peers and professor. Participation can also help you articulate your thoughts and develop critical thinking skills.

2. **Manage your time.** Make time for your online learning and participation in discussions each week. Give yourself plenty of time to complete assignments including extra time to handle any technology related problems.

3. **Login regularly.** Log in to ELMS-Canvas several times a week to view announcements, discussion posts, and replies to your posts. You may need to log in multiple times a day when group submissions are due.

4. **Do not fall behind.** This class moves at a quick pace and each week builds on the previous. It will be hard to keep up with the course content if you fall behind in the pre-work or post-work.

5. **Use ELMS-Canvas notification settings.** ELMS-Canvas can ensure you receive timely notifications in your email or via text. Be sure to enable announcements to be sent instantly.

6. **Ask for help if needed.** If you need help with ELMS-Canvas or other technology, contact IT Support. If you are struggling with a course concept, reach out to me and your classmates for support.

Expectations:
Students are expected to carefully complete the assigned readings prior to the seminar class for which they are assigned and be prepared to discuss, analyze, and critique the topics during class. **Attendance and active participation during every seminar is expected.** The instructor welcomes meetings with students outside of class to discuss questions and to gain more insights about the materials presented during seminar. Please e-mail or text to schedule an appointment.

Campus Policies
It is our shared responsibility to know and abide by the University of Maryland’s policies that relate to all courses, which include topics like:

- Academic integrity
- Student and instructor conduct
- Accessibility and accommodations
- Attendance and excused absences
- Grades and appeals
- Copyright and intellectual property

Please visit [www.ugst.umd.edu/courserelatedpolicies.html](http://www.ugst.umd.edu/courserelatedpolicies.html) for the Office of Undergraduate Studies’ full list of campus-wide policies and follow up with me if you have questions.
Course-Specific Policies

Names/Pronouns and Self-Identifications
The University of Maryland recognizes the importance of a diverse student body, and we are committed to fostering inclusive and equitable classroom environments. I invite you, if you wish, to tell us how you want to be referred to both in terms of your name and your pronouns (he/him, she/her, they/them, etc.). The pronouns someone indicates are not necessarily indicative of their gender identity. Visit trans.umd.edu to learn more. I identify as she/her/hers. I encourage the use of the Namecoach on the ELMS platform to help me and your classmates use your correct name and proper pronunciation.

Additionally, how you identify in terms of your gender, race, class, sexuality, religion, and dis/ability, among all aspects of your identity, is your choice whether to disclose (e.g., should it come up in classroom conversation about our experiences and perspectives) and should be self-identified, not presumed or imposed. I will do my best to address and refer to all students accordingly, and I ask you to do the same for all of your fellow Terps.

Communication with Instructor:
Email: If you need to reach out and communicate with me, please email me at slansing@umd.edu or text at 301-789-7241. I will do my best to respond to emails within 24 hours.

ELMS: I will send IMPORTANT announcements via ELMS messaging. You must make sure that your email & announcement notifications (including changes in assignments and/or due dates) are enabled in ELMS so you do not miss any messages. You are responsible for checking your email and Canvas/ELMS inbox with regular frequency.

Communication with Peers:
With a diversity of perspectives and experience, we may find ourselves in disagreement and/or debate with one another. As such, it is important that we agree to conduct ourselves in a professional manner and that we work together to foster and preserve a virtual classroom environment in which we can respectfully discuss and deliberate controversial questions.

I encourage you to confidently exercise your right to free speech—bearing in mind, of course, that you will be expected to craft and defend arguments that support your position. Keep in mind, that free speech has its limit and this course is NOT the space for hate speech, harassment, and derogatory language. I will make every reasonable attempt to create an atmosphere in which each student feels comfortable voicing their argument without fear of being personally attacked, mocked, demeaned, or devalued.

Any behavior (including harassment, sexual harassment, and racially and/or culturally derogatory language) that threatens this atmosphere will not be tolerated. Please alert me immediately if you feel threatened, dismissed, or silenced at any point during our semester together and/or if your engagement in discussion has been in some way hindered by the learning environment.
Major Assignments

Homework Assignments
- Reading reviews/reflections, ELMS discussion page engagement, and other assignments will be assigned and graded via ELMS.
- Each week, you will need to participate and turn in these assignments, which could include points for initial submission and more points for insightful comments, questions, or constructive challenges to your peers’ posts.
- Readings will be accessible on ELMS.

Quizzes & Weekly Summaries
- Most weeks, you will have an article review or activity reflection due by Tuesday evening. Wednesday’s class will consist of guest speakers/panels, discussion, and presentation with introduction of the latest news and up-to-date relevant information on the topic.

Participation & Engagement
- During live sessions, you are encouraged to have your videos on (but not required). You are expected to participate in breakout room discussions, chat box discussion, and polls.
- In group discussion boards, you are expected to post your own comments and respond to others’ comments to create connection and engaging conversation around the week’s topic.

Group Project
- Each student will bring a diverse set of expertise to each project, creating a microcosm for interdisciplinary team science. The groups will gain real-world experience by conceptualizing and/or conducting an interdisciplinary FEW systems project. Projects may employ a combination of engineering, life sciences, epidemiological or policy approaches; earth system sciences frameworks; social/behavioral approaches; computational methods; and/or other innovative approaches. Through this work, students will gain hands-on experience in study design, research methods, data analysis and/or science communication across varying FEW disciplines.
- The final project deliverable will be a grant proposal, a manuscript, an Op-Ed, an extension/outreach package, or another actionable type of science/policy writing. 100 points is possible, with each student receiving an individual grade based on the quality of the final paper (75% of grade) and peer evaluations from other members in your group (25% of grade).
- There will also be a Group Project Presentation, the entire group will get the same presentation grade based on the quality of the presentation (75% of grade) and peer evaluations from your classmates (25% of grade). The presentation is limited to 15 minutes.

Grading Structure

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Percentage %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Literature Reviews</td>
<td>20%</td>
</tr>
<tr>
<td>Participation &amp; Weekly Discussion Board</td>
<td>20%</td>
</tr>
<tr>
<td>Peer Reviews</td>
<td>20%</td>
</tr>
<tr>
<td>Group Project Paper and Presentation</td>
<td>40%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
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</tbody>
</table>
Academic Integrity

The University’s **Code of Academic Integrity** is designed to ensure that the principles of academic honesty and integrity are upheld. In accordance with this code, academic dishonesty will not be tolerated. Please ensure that you fully understand this code and its implications because all acts of academic dishonesty will be dealt with in accordance with the provisions of this code. All students are expected to adhere to this Code. It is your responsibility to read it and know what it says, so you can start your professional life on the right path.

Additionally, it is understandable that students may use a variety of online or virtual forums for course-wide discussion (e.g., GroupME or WeChat). Collaboration in this way regarding concepts discussed in this course is permissible. However, collaboration on graded assignments is strictly prohibited unless otherwise stated. Examples of prohibited collaboration include: asking classmates for answers on quizzes or exams, asking for access codes to clicker polls, etc.

To help you avoid unintentional violations, **the following table** lists levels of collaboration that are acceptable for each type of assignment. If you ever feel pressured to comply with someone else’s academic integrity violation, please reach out to me straight away. Also, **if you are ever unclear** about acceptable levels of collaboration, **please ask**!

The following table lists levels of collaboration that are acceptable for each type of graded exercise. See each CANVAS-ELMS page for academic integrity expectations for each individual assignment. If you are ever unsure about acceptable levels of collaboration, please ask!

<table>
<thead>
<tr>
<th></th>
<th>Open Notes</th>
<th>Use Book</th>
<th>Search Online</th>
<th>Ask Friends</th>
<th>Work in Groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reviews</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>Discussion Board Participation</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✗</td>
</tr>
<tr>
<td>Team Project</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
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**Grades**

All assessment scores will be posted on the course ELMS page. If you would like to review any of your grades (including the exams), or have questions about how something was scored, please email me to schedule a time for us to meet and discuss.

Late work will not be accepted for course credit so please plan to have it submitted well before the scheduled deadline. I am happy to discuss any of your grades with you, and if I have made a mistake I will immediately correct it. Any formal grade disputes must be submitted in writing and within one week of receiving the grade. Final letter grades are assigned based on the percentage of total assessment points earned. To be fair to everyone, I have to establish clear standards and apply them consistently, so please understand that being close to a cutoff is not the same as making the cut (89.49 ≠ 90.00). It would be unethical to make exceptions for some and not others.
Final Grade Cutoffs

<table>
<thead>
<tr>
<th>Grade</th>
<th>Cutoff</th>
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<tbody>
<tr>
<td>A</td>
<td>94.00%</td>
</tr>
<tr>
<td>B</td>
<td>84.00%</td>
</tr>
<tr>
<td>C</td>
<td>74.00%</td>
</tr>
<tr>
<td>D</td>
<td>64.00%</td>
</tr>
<tr>
<td>E</td>
<td>&lt;60.0%</td>
</tr>
</tbody>
</table>

**Course Outline**
The format of this section will vary based on the design of your course and the semester, but our guidance is to aim for a clear and concise table that maps out all of the assignment assessments and deadlines and gives students a sense of the course’s organization.

<table>
<thead>
<tr>
<th>Week #</th>
<th>Topic</th>
<th>Reading/Activity</th>
<th>Deliverable</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (Sept 2nd)</td>
<td>Introductions</td>
<td></td>
<td>Project Report Feedback</td>
</tr>
<tr>
<td>2 (Sept 9th)</td>
<td>Implicit Bias</td>
<td></td>
<td></td>
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<tr>
<td>3 (Sept 16th)</td>
<td>Interdisciplinary Research</td>
<td></td>
<td></td>
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<tr>
<td>4 (Sept 23rd)</td>
<td>Library Science Research</td>
<td></td>
<td></td>
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<tr>
<td>5 (Sept 30th)</td>
<td>Social Science Research</td>
<td></td>
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<tr>
<td>6 (Oct 7th)</td>
<td>Data in your Field (1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 (Oct 14th)</td>
<td>Data in your Field (2)</td>
<td></td>
<td></td>
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<tr>
<td>8 (Oct 21st)</td>
<td>Modeling</td>
<td></td>
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<tr>
<td>9 (Oct 28th)</td>
<td>Life Cycle Assessment</td>
<td></td>
<td>Group Project Draft due</td>
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<tr>
<td>10 (Nov 4th)</td>
<td>Peer Review</td>
<td></td>
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<tr>
<td>11 (Nov 11th)</td>
<td>Presentations/Posters</td>
<td></td>
<td></td>
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<tr>
<td>12 (Nov 18th)</td>
<td>Social Media</td>
<td></td>
<td></td>
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<tr>
<td>13 (Dec 2nd)</td>
<td>Industry Connection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14 (Dec 9th)</td>
<td>Group Projects</td>
<td></td>
<td>Final Presentations</td>
</tr>
</tbody>
</table>

Note: This is a tentative schedule, and subject to change as necessary – monitor the course ELMS page for current deadlines. In the unlikely event of a prolonged university closing, or an extended absence from the university, adjustments to the course schedule, deadlines, and assignments will be made based on the duration of the closing and the specific dates missed.
Resources & Accommodations

Accessibility and Disability Services
The University of Maryland is committed to creating and maintaining a welcoming and inclusive educational, working, and living environment for people of all abilities. The University of Maryland is also committed to the principle that no qualified individual with a disability shall, on the basis of disability, be excluded from participation in or be denied the benefits of the services, programs, or activities of the University, or be subjected to discrimination. The Accessibility & Disability Service (ADS) provides reasonable accommodations to qualified individuals to provide equal access to services, programs and activities. ADS cannot assist retroactively, so it is generally best to request accommodations several weeks before the semester begins or as soon as a disability becomes known. Any student who needs accommodations should contact me as soon as possible so that I have sufficient time to make arrangements.

For assistance in obtaining an accommodation, contact Accessibility and Disability Service at 301-314-7682, or email them at adsfrontdesk@umd.edu. Information about sharing your accommodations with instructors, note taking assistance and more is available from the Counseling Center.

Student Resources and Services
Taking personal responsibility for your own learning means acknowledging when your performance does not match your goals and doing something about it. I hope you will come talk to me so that I can help you find the right approach to success in this course, and I encourage you to visit UMD’s Student Academic Support Services website to learn more about the wide range of campus resources available to you.

In particular, everyone can use some help sharpen their communication skills (and improving their grade) by visiting UMD’s Writing Center and schedule an appointment with the campus Writing Center.

You should also know there are a wide range of resources to support you with whatever you might need (UMD’s Student Resources and Services website may help). If you feel it would be helpful to have someone to talk to, visit UMD’s Counseling Center or one of the many other mental health resources on campus.

Basic Needs Security
If you have difficulty affording groceries or accessing sufficient food to eat every day, or lack a safe and stable place to live, please visit UMD’s Division of Student Affairs website for information about resources the campus offers you and let me know if I can help in any way.

Technology Policy
Please refrain from using other cellphones, laptops, and other electronic devices during class sessions (except, of course, the device used to Zoom) unless we have designated use as part of a class exercise.

Netiquette Policy
Netiquette is the social code of online classes. Students share a responsibility for the course’s learning environment. Creating a cohesive online learning community requires learners to support and assist each other. To craft an open and interactive online learning environment, communication has to be conducted in a professional and courteous manner at all times, guided by common sense, collegiality and basic rules of etiquette.
Participation

- Given the interactive style of this class, attendance will be crucial to note-taking and thus your performance in this class. Attendance is particularly important also because class discussion will be a critical component for your learning.

- Each student is expected to make substantive contributions to the learning experience, and attendance is expected for every session.

- Students with a legitimate reason to miss a live session should communicate in advance with the instructor, except in the case of an emergency.

- Students who miss a live session are responsible for learning what they miss from that session.

- Additionally, students must complete all readings and assignments in a timely manner in order to fully participate in class.

Course Evaluation

Please submit a course evaluation through CourseEvalUM in order to help faculty and administrators improve teaching and learning at Maryland. All information submitted to CourseEvalUM is confidential. Campus will notify you when CourseEvalUM is open for you to complete your evaluations for fall semester courses. Please go directly to the Course Eval UM website to complete your evaluations. By completing all of your evaluations each semester, you will have the privilege of accessing through Testudo, the evaluation reports for the thousands of courses for which 70% or more students submitted their evaluations.

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