**CEMS 050 – CEMS First Year Seminar (1 credit)**

**Fall 2021**

**The University of Vermont**

**WEEKLY SCHEDULE**

You will attend one lecture and one lab each week:

**Lectures**

A Thursday 08:30-9:45 AM Billings Lecture Hall Courtney Giles

B Thursday 10:05-11:20 AM Innovation E102 Courtney Giles

**Labs**

*L01* Tuesday 01:40-02:30 PM Votey 242 Jeff Buzas

*L02* Tuesday 02:50-03:40 PM Votey 242 Jeff Frolik

*L03* Tuesday 04:10-05:00 PM Votey 242 Jason Hibbeler

*L04* Wednesday 12:00-12:50 PM Votey 242 Courtney Giles

*L05* Wednesday 01:10-02:00 PM Votey 242 Courtney Giles

*L06* Wednesday 02:20-03:10 PM Votey 242 Courtney Giles

*L07* Friday 12:00-12:50 PM Votey 242 Doug Dickey

*L08* Friday 01:10-02:00 PM Votey 242 Linda Schadler

*L09* Friday 02:20-03:10 PM Votey 242 Linda Schadler

**OUR COMMUNITY!**

**CEMS 050 INSTRUCTORS**

**Courtney Giles, Ph.D.**

Lecturer, Department of Civil & Environmental Engineering

Office: Votey 235 B Email: [cdgiles@uvm.edu](mailto:cdgiles@uvm.edu)

Office Hours: Wednesday 10:30-11:30 AM; Thursday 2:00-3:00 PM;

**Jason Hibbeler, Ph.D.**

Senior Lecturer, Department of Computer Science

Office: Innovation 315 Email: [Jason.Hibbeler@uvm.edu](mailto:Jason.Hibbeler@uvm.edu)

Office Hours: TBD

**Linda Schadler, Ph.D.**

Dean, College of Engineering & Mathematical Sciences

Professor, Department of Mechanical Engineering

Office: Votey 109 Email: [lsf@uvm.edu](mailto:lsf@uvm.edu)

Office Hours: TBD

**Jeff Buzas, Ph.D.**

Professor, Department of Mathematics & Statistics

Office: Innovation 226 Email: [jeff.buzas@uvm.edu](mailto:jeff.buzas@uvm.edu)

Office Hours: TBD

**Jeff Frolik, Ph.D.**

Professor and Chair, Department of Electrical & Biomedical Engineering

Office: Votey 301 D Email: [jeff.frolik@uvm.edu](mailto:jeff.frolik@uvm.edu)

Office Hours: TBD

**CEMS PEER MENTORS**

You will be assigned a CEMS Peer Mentor (CPM) prior to the start of classes. Your CPM will be available to answer questions specifically about CEMS 050 or any other experience in CEMS or at UVM. Mentors are CEMS students in their second, third, or fourth year of study. You will meet your CPM in the first week of class. You may also see your CPM during your CEMS 050 lab sessions. Your CPM may share upcoming opportunities and events on campus or invite you to extra curricular / social activities. This is a great way to learn more about everything that is going on at UVM and in the Burlington area. You will also submit some homework assignments to your mentor. Students can connect with their CPM via email or on the MS Team ‘CEMS Peer Mentors’. Click [here](https://web-gw1.uvm.edu/cems/cems-peer-mentor-internship-program) to learn more about the CEMS Peer Mentor program.

**COURSE COLLABORATORS**

Corey Berman (UVM Recyling & Zero Waste Program) Project Partner

Lynn Wood (UVM Physical Plant Dept.) Project Partner

Gioia Thompson (UVM Office of Sustainability) Project Partner

Jeff Rettew (UVM Wellness Environment) Project Partner

Jim Hudziak (UVM Wellness Environment) Project Partner

Abby Bleything (UVM Transportation & Parking Services) Project Partner

KC Williams (UVM CEMS) Assistant Dean of Equity, Belonging and Student Success

Matt Manz (UVM Office of Student Services) Director of Student Services

Amanda Stemple (UVM Office of Student Services) Assistant Director & Advisor

Genevieve Anthony (UVM Office of Student Services) Asst Director, College Registrar, Advisor

**ABOUT THIS COURSE**

**COURSE DESCRIPTION.** This 1 credit seminar is specifically designed for first year students in the College of Engineering and Mathematical Sciences. Students will explore the design process as it relates to the CEMS disciplines and learn strategies for building equitable and effective teams. These skills will be developed in the context of a semester-long project with the aim of solving a campus-based problem that relates to the National Academy of Engineering (NAE) [Grand Challenges](http://www.engineeringchallenges.org/) themes. This year, the project themes are: *Resources@UVM*, *Energy@UVM*, and *Health@UVM*. You will choose the project you would like to work on. Once selected, you will work with 3-4 other students for the remainder of the semester to develop a proposed solution. At the end of the semester, you and your team (along with the ~75 other teams in the course!) will present your project during a final poster presentation session. Final presentations will occur during the final exam period on December 14, 2021 in the Grand Maple Ballroom (UVM Davis Center) from 10:30 AM to 1:15 PM. In addition to the semester project, you will learn about different programs in CEMS and opportunities on campus from our course collaborators and explore the many resources at UVM that will help you to succeed in and enjoy college.

# COURSE GOALS

1. To introduce you to CEMS programs (Civil & Environmental Engineering, Electrical & Biomedical Engineering, Mechanical Engineering, Mathematics & Statistics, Computer Science, Data Science, Computer Science and Information Systems) and extracurricular opportunities
2. To introduce you to the design thinking process and strategies for solving open-ended problems
3. To help you develop an ability to work effectively in teams
4. To help you build a network of support at UVM, including peers, instructors, and staff
5. To provide opportunities for you to practice important skills for personal and professional success

# LEARNING OBJECTIVES

By the end of the semester, you will be able to:

1. Apply the core elements of the design thinking process and propose a solution to a campus-based problem
2. Practice the key components of effective and inclusive team work including self-awareness, reflection, communication, and goal setting
3. Effectively communicate the technical aspects of your project to an audience of instructors, mentors, peers, and project partners
4. Reflect on ethical and/ or societal issues as related to your semester project or field of study
5. Gather and evaluate relevant and reliable information and data from a variety of sources
6. Demonstrate key skills necessary for success in college and beyond

**REQUIRED MATERIALS**

**Text.** None required

**Technology**

* Laptop or other device with functioning webcam, microphone, and audio (See [CEMS Laptop Recommendations](https://www.uvm.edu/cems/computer_services) and [CEMS Computer Loaner Program](https://www.uvm.edu/it/kb/article/cems-computer-loaner-program/))
* Please review this [technology checklist](https://www.uvm.edu/it/kb/student-technology-resources/) to make sure you are ready for classes.

**LEARNING PLATFORMS**

* Blackboard (UVM’s Learning Management System, free to all students)
* MS Teams (UVM’s conferencing software, free to all students)
* Flipgrid (Social media/discussion App, free to all students)
* iClicker Cloud App (Classroom response system, free to all students)

If you are unable to secure the required materials for this or any other course for financial reasons, please contact the CEMS Assistant Dean of Equity, Belonging, and Student Engagement, KC Williams ([kc.williams@uvm.edu](mailto:kc.williams@uvm.edu)) and/or [UVM Student Financial Services](https://www.uvm.edu/studentfinancialservices).

**INCLUSION STATEMENT**

*Our intention is for CEMS to be a place where you will be treated with respect and kindness. We welcome individuals of all ages, backgrounds, beliefs, interests, ethnicities, genders, gender identities, gender expressions, national origins, religious affiliations, sexual orientations, ability – and other visible and nonvisible differences. All members of the College are expected to contribute to a respectful, welcoming and inclusive environment for every other member of the community. If you ever feel that you have been unfairly treated or judged by an instructor, a mentor, another student, or another member of the CEMS community, please let someone know. Your instructors and advisors in the* [*CEMS Office of Student Services*](https://www.uvm.edu/cems/student-services) *are available to discuss any concerns or you can report an incident of bias through the* [*Campus Bias Response Program*](https://www.uvm.edu/deanofstudents/bias_response)*.*

**COURSE POLICIES**

**COMMUNICATION** is a two-way street. Therefore, you and your instructors are expected to communicate with eachother in a *constructive and thoughtful* way. Below are the expectations for communication in CEMS 050:

INSTRUCTORS

* All communication for this course will be provided through Blackboard and email.
* Course materials and lecture notes will be made available on Blackboard in a timely manner.
* Weekly emails will be sent to students via Blackboard to communicate upcoming assignments, due dates, and in-class activities.
* The instructor may email individual students to check in on progress or as other issues arise.

STUDENTS

* **Check your UVM e-mail *regularly*** for announcements and course updates.
* **Email the instructor *early*** about absences or missed due dates.
* **Email the instructor with *constructive* feedback, suggestions or questions** *early and often.*
* **Practice professional and friendly *email etiquette***. This means, providing feedback, questions, or requests in a *constructive* and professional manner. Avoid *destructive* or *negative* communication (e.g., petty complaints, demands). Begin emails “Dear Dr. X”, use complete sentences, and sign your name at the end.
* **Practice professional and friendly *in-class etiquette***. Raise your hand, avoid speaking over others, treat your classmates and teachers with respect and *listen* to all perspectives with an open mind.

# ASSESSMENT AND GRADING

Your grade in this class will be assessed based on the following criteria: participation in class and lab sessions (Participation), your contribution to your project team (Teamwork), completion of 9 additonal homework assignments (Assignments), and your Final Project Presentation.

* ***Participation.*** All classes and lab sessions will begin promptly at the designated time. Please come early enough to be settled in your seat when class starts. If you cannot attend a class or need to be late, please notify the instructor and your team mates ahead of time.
* ***Teamwork.*** You contribution to your project teamwill be assessed based on three dedicated assignments (10 pts each) including your team contract, mid-semester team reflection, and final team reflection.
* ***Assignments.*** Nine additional homework assignments are designed to support the development of your semester project (5-15 pts each). Rubrics will be provided for each assignment in the *Rubrics* section of *Blackboard*.
  + ***Late Assignments*** “Late” is defined as one minute past the due date time. For example, if an assignment is due at 11:59 PM on Monday 9/9 and is submitted at 12:01 AM on Tuesday 9/10 (two minutes late), that assignment will lose one point. *You will lose one point per day that an assignment is late.*
* ***Final Project Presentation***includes the submission of the final poster design the Friday before the final poster session and presentation of the poster on 14 December 2021.

**Final grades will be based on the following:**

|  |  |  |
| --- | --- | --- |
| **Item** | **% Final Grade** | **Points** |
| Participation | 15% | 30 |
| Teamwork | 25% | 50 |
| Assignments | 45% | 90 |
| Final Project Presentation | 15% | 30 |

*97+* = A+; *93-96* = A; *90-92* = A- ; *87-89* = B+; *83-86* = B; *80-82* = B-; *77-79* = C+; *73-76* = C; *70-72* = C-; *67-69* = D+; *63-66* = D; *60-62* = D-; *Below 60* = F.

***How can I check my grade?*** Grades will be updated regularly in Blackboard under ‘My Grades’. You will be able to review feedback from instructors and CPMs here as well. If you have a question about your grade, please contact the instructor as soon as possible.

**PROPER USE OF ELECTRONICS.** Students attending class meetings should only use laptops, tablets and smartphones when prompted by the instructor. Please be courteous to your instructors, mentors, and guest presenters and give them your full attention when they are speaking.

**UVM POLICIES**

**ACCESSIBILITY.** In keeping with University policy, any student with a documented disability interested in utilizing accommodations should contact Student Accessibility Services (SAS). SAS works with students to create reasonable and appropriate accommodations via an accommodation letter to their professors as early as possible each semester. Contact SAS: A170 Living/Learning Center; 802-656-7753; access@uvm.edu; or [www.uvm.edu/access.](http://www.uvm.edu/access)

**Managing Your Identity at UVM.** Students at UVM can specify the first name and pronoun they want used on campus. All students at the University of Vermont can indicate their preferred first name and pronoun to the University community regardless of whether or not they have legally changed their names. Choosing a preferred name in the BANNER system will automatically change which name appears in many internal locations such as class lists, grade reports, and unofficial transcripts.

For more information on how to update your preferred name and personal pronouns as well as keeping your legal name private: <https://www.uvm.edu/registrar/preferred-name-and-pronoun>

To read more about official UVM policies, events, and initiatives regarding diversity, equity, and inclusion: <https://www.uvm.edu/diversity>

**RELIGIOUS HOLIDAYS.** Students have the right to practice the religion of their choice. Please submit in writing your documented religious holiday schedule for the semester to [cdgiles@uvm.edu](mailto:cdgiles@uvm.edu) by the end of the second week of classes (Friday, September 11, 2020).

**ACADEMIC INTEGRITY**. The University of Vermont and the College Engineering & Mathematical Sciences are learning communities. Consistent with the University’s mission and purpose, and the values the College seeks to foster within its community, it is expected that academic honesty and integrity guide the actions of all its members. **It is the responsibility of every person in the academic community to ensure that honesty, integrity, and transparency are upheld by faculty and students alike.** Violations of the Academic Integrity Policy and may result in an “F” on the work involved or in the course. Academic dishonesty not only violates the Academic Integrity Policy, but also may be grounds for probation, suspension, and/or expulsion. <http://www.uvm.edu/~uvmppg/ppg/student/acadintegrity.pdf>

# COURSE EVALUATIONS. All students are expected to complete a mid-term evaluation and final evaluation of each course they are enrolled in at its conclusion. Course evaluations are anonymous and confidential. The information gained through the course evaluation, including constructive criticisms of the instructor, will be used to improve future versions of the course.

**FERPA RIGHTS DISCLOSURE.** The purpose of this policy is to communicate the rights of students regarding access to, and privacy of their student educational records as provided for in the Family Educational Rights and Privacy Act (FERPA) of 1974. <http://catalogue.uvm.edu/undergraduate/academicinfo/ferparightsdisclosure/>

**HEALTH & WELL-BEING.** The Center for Health & Wellbeing (CHWB) at UVM offers a wide range of services to support your mind, body, and soul while you're at UVM. The Student Health Services staff of board certified physicians, physician assistants, nurse practitioners, nurses, and dietitians work with patients and collaborate with other CHWB providers to ensure personalized and timely care to UVM students. Counseling & Psychiatry Services (CAPS) offers short-term individual counseling, urgent needs counseling, group counseling, outreach and education, psychiatry, referrals, and consultation services. To learn more: <http://www.uvm.edu/~chwb/>

**C.A.R.E.** If you are concerned about a UVM community member or are concerned about a specific event, we encourage you to contact the Dean of Students Office (802-656-3380). If you would like to remain anonymous, you can report your concerns online by visiting the Dean of Students website at <https://www.uvm.edu/studentaffairs>

**FOOD INSECURITY.** If you are hungry or stuggling to find / pay for food, or know of someone else that is, the UVM Center for Health & Wellbeing provides several on- and off-campus resources for students: <https://www.uvm.edu/health/food-insecurity-uvm>

**SAFETY.** UVM promotes a Culture of Safety. CEMS 050 lab sessions will be held in the CEMS Fabrication Lab (FabLab) space in Votey 242. This space is full of 3D printers, laser-cutter/engravers, soldering equipment, and associated physical hazards. Therefore, while working in this space, students must follow UVM Laboratory Safety Policies and wear appropriate Personal Protective Equipment (PPE). Depending on the nature of the activity, students may be required to wear PPE (provided) while working in Votey 242. Information on UVM Safety Policies can be found here: <https://www.uvm.edu/riskmanagement/safety>

**STATEMENT ON ALCOHOL & CANNABIS IN THE ACADEMIC ENVIRONMENT.** As a faculty member, I want you to get the most you can out of your time at UVM. You play a crucial role in your education and in your readiness to learn and acquire knowledge. It is important to note that alcohol and cannabis can seriously impair your ability to learn and retain information, not only in the moment you may be using, but up to 48 hours or more afterwards. New research shows that the human brain is not fully developed until you are 25 years old. How you treat your brain now will have long lasting impacts on your life. In addition, alcohol and cannabis can:

* Cause issues with attention, memory and concentration
* Negatively impact the quality of how information is processed and ultimately stored
* Affect sleep patterns, which interferes with long-term memory formation

It is my expectation that you will do everything you can to optimize your learning and to fully participate in this course. Here is an interesting article on the impacts of cannabis on developing minds: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3930618/>

**SYLLABUS & COURSE CHANGES.** This syllabus is subject to change with verbal and/or electronic notice.The University of Vermont reserves the right to make changes in the course offerings, mode of delivery, degree requirements, charges, regulations, and procedures contained herein as educational, financial, and health, safety, and welfare considerations require, or as necessary to be compliant with governmental, accreditation, or public health directives.

# COURSE SCHEDULE

*Important Note:* There will be no L01 – L06 lab meetings on Tuesday (8/31) and Wednesday (9/1). Your first class meeting will occur on Thursday (9/2/21) with Lecture A or B. Your first lab meeting will occur *after* the first lecture, beginning with the Friday 9/3 labs (L07, L08, L09) and followed by the Tuesday 9/7 labs (L01, L02, L03) and Wednesday 9/8 labs (L04, L05, L06). Following this pattern, Week # is defined below as beginning on Thursday and ending the following Wednesday.

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| --- | --- |
| Week # and  Dates | Class and Lab Topics and Activities |
| **Week 1**  Thurs. 9/2 – Wed. 9/8/21  *There are no labs on Tuesday (8/31) and Wednesday (9/1)*  *CEMS 050 officially starts with the lecture on Thursday 9/2/21!* | ***Lecture:*** *Welcome & Introduction**(Thursday 9/2/21)*  We will review the course structure and syllabus, expectations and grading. We will discuss what we mean by ‘Grand Challenges’ and how they relate to this course. We will review important information, such as how this course works and lab safety policies (10 min). You will then meet CEMS Student Services Advisors (30 min). Pay attention! You will need this information later!  ***Lab:*** *Time-Management and Self Awareness**(begins Friday 9/3/21). If your lab is on a Tuesday or Wednesday, your first lab will occur on Tuesday (9/7/21) or Wednesday (9/8/21).*  We cover two important topics this week:  (1) Time Management – Being able to manage your time and anticipate important assignments/exams and extra-curricular activities will help you be successful throughout college. We will discuss one tool for this, the academic planner, and expectations for Assignment 1.  (2) Self-Awareness – The ability to reflect on your own strengths and areas for improvement is an important skill in life. We will discuss examples of how self-reflection strategies can be used to help navigate life’s challenges and complete a short self-reflection survey.  ***Assignment 1:*** *Individual Assignment***.** Academic planner (in whatever format you choose) filled in for the Fall 2021 semester. Due to your CEMS Peer Mentor (CPM) when you first meet with them (in first two weeks of class). See Blackboard/Course Materials/Week 1/Assignment 1. |
| **Week 2**  Thurs. 9/9 – Wed. 9/15/21 | ***Lecture****: Overview of Design Projects**(Thursday 9/9/21)*  We will discuss this year’s course project themes and specific project challenges, which you will work on in teams for the rest of the semester. Project Partners will visit to describe their project needs and the problems that you will help them solve over the course of the semester.  ***Lab****: Being Part of a Team**(begins Friday 9/10/21)*  We will discuss the importance of team work and strategies for developing equitable, inclusive, and effective teams. Students will complete a team activity and then reflect on what worked and what didn’t work.  ***Assignment 2:*** *Individual Assignment*. Reading and discussion board post about project interests. See *Blackboard/Course Materials/Week 2* for assignment details. |
| **Week 3**  Thurs. 9/16 – Wed. 9/22/21 | ***Lecture:*** *Intro to the Design Process**and Excel Basics**(Thursday 9/16/21)*  We will begin our conversation on the design process and describe the stages of Design Thinking that we will follow in this course. Micro-design Project topics will be revealed and students will vote on which one they would like to work on over the next two weeks (votes due by 11:59PM 9/16/21).  ***Lab:*** *Micro-design Projects I (begins Friday 9/17/21)*  Students will begin working on a Micro-design Project in small groups. Micro-design projects will last two weeks and will give students practice working in teams and applying the steps of the design thinking process before jumping into their semester projects. Empathizing, defining, and ideation will be the focus in part 1.  ***Assignment 3***: *Individual Assignment*. Reading and Flipgrid Post on Design Thinking. See *Blackboard/Course Materials/Week 3* for details. |
| **Week 4**  Thurs. 9/23 – Wed. 9/29/21 | ***Lecture:*** *Conceptualizing & Evaluating Team Dynamics**(Thursday 9/23/21)*  We will discuss team roles and different ways of evaluating team dynamics including the identification of constructive and destructive team behaviors. CEMS Office of Student Services will visit to share information on how to get involved in UVM’s Study Abroad Program and CEMS Student Clubs (45 min).  ***Lab:*** *Micro-design Projects II (begins Friday 9/24/21)*  Students will continue working on their Micro-design Projects. Prototyping will be the focus of part 2.  ***Assignment 4:*** *Individual Assignment. Project Decision – CEMS 050 Project Design & Team Questions Due Friday 9/24/2021.* See *Blackboard/Course Materials/Week 4* for details. |
| **Week 5**  Thurs. 9/30 – Wed. 10/6/20 | ***Lecture:*** *Empathizing & Research**(Thursday 9/30/21)*  We will discuss steps 1 and 2 of the design process: (1) Empathize and (2) Define. These steps require that you understand the human-centered need of the problem (empathize) and the constraints of the system. Unless you are already an expert in energy, resource, and health solutions, you will likely need to learn more about these topics to define the problem and begin working toward a solution. This is where research comes in. In the second part of this class, we will meet with a research librarian from the Howe Library and a tutor from the [UVM Writing Center](https://www.uvm.edu/uwi/writingcenter) (30 min) who will provide resources and best practices for finding credible information on your project and for building citations and bibliographies (needed for Assignment 5 and many, many other courses in CEMS!).  ***Lab:*** *MicroDesign Projects III*  Students will test their MicroDesign prototypes. Individual team members must complete the [MicroDesign Debrief form](https://forms.office.com/Pages/ResponsePage.aspx?id=WHcXHGtN3EOq6zucQlYpZ5yaWKdnPQ9OnPaYsMP9nJRUQkJEUkJDMUQxQ0xTUjlGUkFZWEVPNlNHUi4u) to receive credit for this design exercise.  ***Assignment 5***  *Part 1:* Project Research & Bibliography. Compile 3-5 correctly formatted references. Due to your CPM (Due 10/6/21 at 11:59 PM). *Part 2:* Complete MicroDesign Debrief form (Due 10/8/21 at 11:59PM). See *Blackboard/Course Materials/Week 5/* for details. |
| **Week 6**  Thurs. 10/7 – Wed. 10/13/21 | ***Lecture:*** *Quantitative and Categorical Analysis (10/7/21)*  This week we will meet briefly at the beginning of the class period to discuss different methods of data processing and analysis. After this meeting, students will break-out into groups to work through a simple exercise in Excel. What you learn in this session can be applied in your semester projects too!  ***Lab:*** *Semester Project Teams & Contracts**(begins Friday 10/8/21)*  Students will assemble in their course project teams for the first time to develop a team contract. Important Note: Fri 10/8/21 is Fall Recess (no classes). Teams in sections L06-L08 will receive special online instructions to complete this assignment.  ***Assignment 6:*** *Team Assignment.* Each team submits a single copy of their team contract in your Group Channel. All team members must contribute to receive credit. Due Wed. 10/13/21 at 11:59PM. See *Blackboard/Course Materials/Week 6* for details. |
| **Week 7**  Thurs. 10/14 – Wed. 10/20/21 | ***Lecture:*** *Project Planning**(Thursday 10/14/21)*  Project planning isn’t a strict part of Design Thinking. However, it is an important and practical means of setting goals and making progress toward a solution, particularly when working in a team. We will discuss important aspects of Project Planning including goal-setting, scheduling, task-assignment, team-member roles, and tracking progress. Students will then have the time to explore the provided resources and begin working on a Project Plan with team members.  ***Lab:*** *Empathize and Define the Problem**(begins Friday 10/15/21)*  Students will meet in project teams to share the individual research they did on their topic (Assignment 5) and to begin defining their problem statement (Assignment 7).  ***Assignment 7:*** *Team Assignment.*Each team submits a draft Problem Statement in your Group Channel. See *Blackboard/Course Materials/Week 7* for details. |
| **Week 8**  Thurs. 10/21 – Wed. 10/27/21 | ***Lecture:*** *Spring Semester Planning,**Ideation and Creativity**(Thursday 10/21/21)*  Members of CEMS Student Services will visit and discuss how to prepare for [Spring 2022 registration](https://www.uvm.edu/registrar/registration-schedule) including degree requirements and schedule mapping (45 min). We will then discuss the third step of the design process: ‘ideation’ and different techniques for promoting creativity and inclusion of many different ideas in the design process.  ***Lab:*** *Ideation Station**(begins Friday 10/22/2021)*  Student teams will meet and use one new *Ideation Technique* to generate ideas or possible ways to address their Problem Statement. This week is about *quanitity* of ideas and may necessitate further research or data analysis related to your project. In *Ideation Continued* (Week 9), teams will either select 1-3 ideas to advance to the Prototyping stage or complete any further research or data analysis as required by the project.  ***Assignment 8:*** *Team Assignment.* Complete the *Project Planning Document*. See *Blackboard/Course Materials/Week 8/Assignment 8* for details. |
| **Week 9**  Thurs. 10/28 – Wed. 11/3/21 | ***Lecture:*** *CEMS Program Visits**(Thursday 10/28/21)*  CEMS Program Visits – CEMS faculty will visit to describe several majors in the college and the many interesting opportunities that exist in each.  ***Lab****: Ideation Continued**(begins Friday 10/29/2021)*  Teams can use this time to continue working through their project ideas and narrowing in on the one(s) they will focus on during *Open Project Work* in the Week 10 lab.  ***Assignment 9*** *Individual assignment.* At least two drafts of your spring semester schedule, including both required and elective courses by 11:59PM on Wednesday 11/4/2020 [LO6]. |
| **Week 10**  Thurs. 11/4 – Wed. 11/10/21 | ***Lecture:*** *Prototyping (Thursday 11/4/21)*  We will discuss the meaning of ‘Prototype’ as it relates to each of the project outcomes and walk through a few different prototyping approaches for each. An undergraduate FabLab employee (Fabber) will visit to discuss resources, projects, and employment opportunities in the Votey 242 FabLab.  ***Lab:*** *Open Project Work (begins Friday 11/5/21)*  Teams may use this time to work on any necessary project research, scoping, site visits or data collection /analysis tasks that were identified as needed during ideation.  ***Assignment 10:*** Discussion board post on ‘Ideas Explored’ during weeks 8-10. See *Blackboard/Course Materials/Week 10/Assignment 10* for details. |
| **Week 11**  Thurs. 11/11 – Wed. 11/17/21 | ***Lecture:*** *Technical Communication**(Thursday 11/11/21)*  We will discuss keys to successful communication and expectations around verbal and written technical communication in CEMS 050 and other courses. We will review expectations for preparing the final deliverable (Posters due 12/2/21; Presentations on 12/14/21). Poster sections discussed will include: Problem Statement, Background, Ideas Explored, Proposed Solution, Potential Outcomes, Teamwork, Bibliography & Acknowledgements.  ***Lab:*** *Prototyping**(begins Friday 11/12/21)*  Project teams will begin prototyping the proposed solutions for their project. Instructors and CPMs will be available to answer questions and give advice.  ***Assignment 11:*** *Individual Assignment.* Complete the *Peer-Team Evaluation Form* to reflect on your experience in the course and working within your team so far. |
| **Week 12**  Thurs. 11/18 – Fri. 11/19/21 | ***Lecture:*** *Giving Successful Presentations**(Thursday 11/18/21)*  We will discuss tips for preparing your the final presentation and hear from other CEMS undergraduate and graduate students on their approach to giving successful presentations.  ***Lab:*** *Work on your project! (Friday 11/19/21 ONLY)*  *Note: Tues (11/23) and Wed. (11/24) Sections A-F will meet after Thanksgiving Recess on 11/30 and 12/1/21.* Students will have time to work with their teams on the course project.  ***Assignment 12:*** *Team Assignment. Final Poster file due Thursday 12/2/21 at 11:59 PM. +*Read/Watch guidelines for giving effective presentations and practice your final presentation with your team. |
| **Week 13** | **THANKSGIVING RECESS – NO CLASSES (Monday 11/22 – 11/26/21)**  ***Assignment 13:*** *No formal assignment.* Relax. Do something fun. Do something good for yourself and your health. Do something to help someone else. Try to not think about school for a few days.Reflect on all the hard work you’ve already done this semester and rest up for the final few weeks. We’re almost done! |
| **Week 14**  Thurs. 12/2 –Weds 12/8/21 | ***Lecture:*** *Inclusion, Representation, and Bias in STEM**(Thursday 12/2/21)*  KC Williams, Assistant Dean of Equity, Belonging and Student Engagement will visit to discuss issues related to inclusion, representation, and bias in the STEM (Science Technology Engineering and Mathematics) disciplines.  ***Lab:*** *Poster Presentation Practice (Begins Friday 12/3/21)*  Use this time to practice presenting your final project by guiding instructors and CPMs through your poster. Use the Poster Presentation Rubric to better-understand how your presentation will be evaluated on presentation day (12/14/21). Follow the guidelines provided on Blackboard for Assignment 14.  ***Assignment 14:*** *+*Read/Watch guidelines for giving effective presentations and practice your final presentation with your team. |
| **Week 15**  Lecture ONLY on 12/9/21 | ***Lecture:*** *Final Class Meeting (Thursday 12/9/21)*  We will use the final class meeting to go over final reminders and set aside time for you to complete the *End-of-Semester Critical Reflection* assignment.  ***Assignment 15***: *Individual Assignment*. Complete the *CEMS 050 End-of-Semester Critical Reflection* form. See *Blackboard/Course Materials/ Week 15* for details. |
| Finals Week  Tuesday 12/14/21 @  10:30 AM – 1:15 PM in the Grand Maple Ballroom, Davis Center | ***Final Project Presentations*** *(Tuesday 12/14/21)*  Teams will present their final projects. CEMS Faculty, Project Partners, and CPMs will attend and provide feedback on this final deliverable for the course. Friends and family are welcome and snacks will be served. Come prepared to celebrate the end of your first semester in CEMS! |