

AGEN/BSEN 470 and 480
Design I and II in Agricultural and Biological Systems Engineering

Credits: 4 (combined for 470 and 480)

Time and place: Fridays 2-3:50 PM, HSB- 31EAST

Instructors Dr. Tami Brown-Brandl
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Office hours: Arrange as needed

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Course website: Available on <https://canvas.unl.edu/>

Course objectives:

Over the course of the fall and the spring semester, students will:

- Execute the engineering design process to develop a solution to an engineering design problem
- Examine the dynamics of teamwork in a professional context and demonstrate behaviors of an effective team member at the expected level (more on this in class)
- Discuss the societal contexts of the engineering profession and the engineering design process using perspectives of risk management and stakeholder analysis
- Develop professional written and oral reports to effectively communicate to a wide-range of audiences

ABET and ACE outcomes:

The senior design experience is designed for you to demonstrate the following ABET outcomes:

Outcome 2: *An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors*

Outcome 3: *An ability to communicate effectively with a range of audiences*

Outcome 5: *An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives*

The senior design experience is also intended for you to achieve UNL's ACE 10 outcome:

Generate a creative or scholarly product that requires broad knowledge, appropriate technical proficiency, information collection, synthesis, interpretation, presentation, and reflection.

As part of the department’s accreditation process, student work during the year will be collected to assess achievement of the above outcomes.

Tentative Grading scheme for AGEN/BSEN 470:

Rapid Design Challenge	15%
Assignments	20%
Oral Presentation	15%
Biweekly logs	5%
Interim Design Report	20%
Project design notebooks	5%
Peer and self-evaluation (CATME)	10%
Client Evaluation	10%

Tentative Grading scheme for AGEN/BSEN 480:

Biweekly logs	5%
Project design notebooks	5%
Individual assignments	20%
Team assignments	20%
Peer and self-evaluation (CATME)	10%
Oral, Video, and Poster Presentation	10%
Client Evaluation	10%
Final Design Report	20%

Final letter grades based on the final weighted percentage will tentatively be distributed as follows:

100- 97.0: A+	96.9-93.0: A	92.9-90.0: A-	
89.9-87.0: B+	86.9-83.0: B	82.9-80.0: B-	
79.9-77.0: C+	76.9-73.0: C	72.9-70.0: C-	
69.9-67.0: D+	66.9-63.0: D	62.9-60.0: D-	59.9 & below: F

Course Guidelines & Policies:

We will demonstrate professionalism in all aspects of the course. This includes but is not limited to the work we submit, how we communicate, and how we treat each other.

Peer-evaluations will be required, please give you fellow students your time in evaluations.

Assignments that are submitted late will be assessed a penalty of 25% per day past the due date.

Attendance and participation in all class activities is expected. You are expected to comply with the class attendance policy of the University (<https://registrar.unl.edu/academic-standards/policies/class-attendance/>)

Students are expected to adhere to guidelines concerning academic integrity outlined the University's Student Code of Conduct (<https://studentconduct.unl.edu/>).

The BSE Department process for grade and academic dishonesty appeals can be found at: <http://engineering.unl.edu/bse/bse-academic-resources/>. Students are encouraged to contact the instructor for clarification of these guidelines if they have questions or concerns.

The University strives to make all learning experiences as accessible as possible. If you anticipate or experience barriers based on your disability (including mental health, chronic or temporary medical conditions), please let me know immediately so that we can discuss options privately. To establish reasonable accommodations, I may request that you register with Services for Students with Disabilities (SSD). If you are eligible for services and register with their office, make arrangements with me as soon as possible to discuss your accommodations so they can be implemented in a timely manner. SSD contact information: 232 Canfield Admin. Bldg.; 402-472-3787

Classroom Emergency Preparedness and Response Information:

- Fire Alarm (or other evacuation): In the event of a fire alarm: Gather belongings (Purse, keys, cellphone, N-Card, etc.) and use the nearest exit to leave the building. Do not use the elevators. After exiting notify emergency personnel of the location of persons unable to exit the building. Do not return to building unless told to do so by emergency personnel.
- Tornado Warning: When sirens sound, move to the lowest interior area of building or designated shelter. Stay away from windows and stay near an inside wall when possible.
- Active Shooter
 - Evacuate: if there is a safe escape path, leave belongings behind, keep hands visible and follow police officer instructions.
 - Hide out: If evacuation is impossible secure yourself in your space by turning out lights, closing blinds and barricading doors if possible.
 - Take action: As a last resort, and only when your life is in imminent danger, attempt to disrupt and/or incapacitate the active shooter.
- UNL Alert: Notifications about serious incidents on campus are sent via text message, email, unl.edu website, and social media. For more information go to: unlalert.unl.edu.
- Additional Emergency Procedures can be found here: <https://emergency.unl.edu/>

COVID-19

All faculty, staff, and students on campus are expected to follow all campus policies and procedures related to Covid-19 which can be found at <https://covid19.unl.edu/>. Please visit this website which includes information about testing, vaccinations, face coverings, and use of the Safer Community App. If you have questions, please let me know!

Student participation in course experiences that take place outside of our classroom and that involve group travel may entail the use of the Safer Community app. All participants will need to have “Access Granted” status on the app in order to travel to and participate in such experiences.

Students who have medical documentation of a health risk that cannot be mitigated through vaccination should submit a [COVID-19 Academic Flexibility Request](#). Those with a disability and/or chronic health condition that makes them high risk for the virus should seek support via [Services for Students with Disabilities](#). International students should contact the [International Student and Scholar Office](#) to discuss their options.