ENVS 451 - SPECIAL TOPICS: PLANT THE MOON CHALLENGE
COURSE SYLLABUS (SUBJECT TO CHANGE)
SPRING SEMESTER 2021

Instructors: Dr. April Ulery
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T 1-2 pm or by appointment

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Team Leaders: Mikaela Hoellrich
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CLASS SCHEDULE:
When: Thursdays 4:30-7:00 pm as well as during individual set times
Weekly meetings: 5:00-6:00 pm.
Delivery method: Hybrid
Where: Class meets weekly during assigned class time virtually while research activities will occur in Skeen Hall W129, W229 and the Skeen Hall teaching greenhouse.

COURSE OVERVIEW AND OBJECTIVES:
This course serves as an experiential learning course exploring the conditions that may be needed to successfully grow food in space. The overarching course objectives are to 1) design and conduct space biological research on growing nutritious food using a moon-like substrate by applying principles of soil science, soil microbiology, and horticulture, and 2) translate the findings into a final report and disseminate the project outcomes at a virtual symposium hosted by NASA.

The specific learning goals for this course are:
1) Enrich your understanding about space biology, astrobotany, and soil ecology of extreme environments.
2) Enhance your skills in growing crops and performing standard soil analyses with a focus on plant health and soil quality measurements.
3) Compare and evaluate crop traits when exposed to different regolith amendments and microbial inoculants and relate measurements to soil physical and chemical data and plant nutritional properties.
4) Read, understand, and critically evaluate primary literature.
5) Develop and enhance critical thinking skills.
6) Practice skills in oral and written communication.

REQUIRED READING MATERIAL:
There is no textbook for this lab course. The reading assignment will be to read multiple peer-reviewed published journal articles and short communications related to astro- and space biology (minimum of 4 papers). We will discuss the papers in class during weekly meeting times.

GRADING:

A+	>99%	B+	87-89.95%	C+	77-79.95%	D+	67-69.95%
A	93-98.95%	B	83-86.95%	C	73-76.95%	D	63-66.95%
A-	90-92.95%	B-	80-82.95%	C-	70-72.95%	D-	60-62.95%

			F	<60%

POINT BREAKDOWN:

1.	Reading assignment and group discussion	50 pts
2.	Participation and in-class activity	100 pts
3.	Lab notebook, data collection and management	100 pts
5.	Data processing and analyses	50 pts
6.	Final team project report	50 pts
7.	Team presentation at NASA virtual conference	50 pts
Total		**400 pts**

Unexcused late assignments will receive a 25%-point deduction for the first day and an added 5% per extra day. Please report any possible mistakes in our grading within a week of the date the work is returned to you. In accordance with University policy, appropriate documentation for University Excused absences should be given to the instructors at least two weeks prior to the absence.

STUDENT RESPONSIBILITIES:

Students will be planting, maintaining, and harvesting plants grown in the Skeen Hall teaching greenhouse. Students must be willing and able to show up when they are scheduled to keep the plants thriving and the greenhouse clean and free of pests. If they cannot keep their scheduled time, then they must ensure that one of their teammates is available and knowledgeable to fill in for them. Due to COVID restrictions, only up to three people can work in the same greenhouse room at any given time (including students or instructors from other courses who may also be using our greenhouse space). All students must agree to the Greenhouse Maintenance Rules. Students are responsible for coming to class and being prepared to interact with the instructors, team leaders, and other students including having read the assignments and being ready to discuss the assignments.

Greenhouse Maintenance Rules: Please be certain that your assigned work area is kept clean and tidy. The cleaning is important to maintain a desirable and safe workplace, and it includes the floor and growing bench areas inside the greenhouse, outside the growing zones in the hallway that include the benchtop formica work space and under the work bench space, and the concrete walkway. If there are any issues, let your instructors or team leaders know and refer to the users list attached to the inside of the main entry door (room W180). **Do NOT move or borrow equipment without first getting permission and always leave a note with your cell phone number and date.**

CLASSROOM COVID-19 SAFE PRACTICES

COVID-19 is a disease that spreads primarily from person to person. Therefore, all employees, students and visitors are expected to take personal responsibility for their own health, help protect the health of others, and keep the Aggie community safe from the spread of COVID-19 and other infections. To minimize the risk to public health presented by the spread of COVID-19 while working and learning at NMSU, students are expected to adhere to the expectations outlined in the Crimson Commitment Classroom COVID-19 Safe Practices Acknowledgement form signed in **My.NMSU.edu**.

SYLLABUS STUDENT RESOURCES & POLICIES

Please visit **https://provost.nmsu.edu/faculty-and-staff-resources/syllabus/policies** for university policies and student services, including Discrimination and Disability Accommodation, academic misconduct, student services, final exam schedule, grading policies and more.

We may modify this syllabus during the semester as necessary to maintain the course objectives.