

INDEPENDENT RESEARCH - CAPSTONE
ENVA 498- FALL 2023

Student:
Course Title: Plant-Fungal Marsh Research
Credit Hours:

Instructor/Advisor: Mark Tobler
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Course Description: Student will design and conduct a field survey study to determine the degree of mycorrhizal colonization within roots of marsh plants along salinity gradients within the Pontchartrain Lake basin. The student will undertake a literature review, conduct field surveys, collect samples at sites, develop lab protocols to determine root colonization, and produce a final report summarizing the findings. Bi-weekly meetings with instructor and occasional readings will occur throughout the semester.

Student Learning Outcomes:

- Gain proficiency in literature review, experimental design and development, and quantitative reasoning.
- Gain experience implementing experimental techniques and protocols.
- Understand field research techniques and logistics.
- Learn etiquette and procedural skills within a laboratory environment.
- Experience with statistical tools and data analysis.

Schedule

WEEK	OBJECTIVE
Sept 4th	Discuss research logistics and timeline
Sept 18th	Conduct preliminary research and field site scouting
Sept 25 th	Research proposal due
Oct 2nd	Carry out research in the field, collect data
Oct 16th	Carry out research in the field, collect data
Oct 30 th	Sample processing and data collection
Nov 13th	Sample processing and data collection
Nov 27th	Sample processing and data collection
Dec 4th	Data analysis
Dec 11th	Data summary report due

Grading: Grading for this course is based primarily on student participation in all aspects of the capstone research project including research proposal (30%), data summary report (30%), conducting field research (20%), sample processing and data collection (20%). Final grading is based on the percentage of these points earned relative to the following scale: A 90-100%, A- 87-89%, B+84-86%, B 80-83%, B- 77-79%, C+ 74-76%, C 70-73%, C- 67-69%, D+ 64-66%, D 60-63%, F<60%