

TO: The Engineering Faculty

FROM: The Faculty of the School of Agricultural and Biological Engineering

RE: New undergraduate course – ABE 45300 Leadership in Biotechnology

The Faculty of the School of Agricultural and Biological Engineering has approved the following new undergraduate course. This action is now submitted to the Engineering Faculty with a recommendation for approval.

FROM:

ABE 49500 Leadership in Biotechnology Sem. 1,2, Class 1, Cr. 1-3 Restrictions:
Instructor Permission

Temporary course number. Course was taught Spring Fall 2018 (11) Spring 2019 (7), Fall 2019 (4), Spring 2020 (4), Fall 2020 (6), and Spring 2021 (6).

TO:

ABE 45300 Leadership in Biotechnology Sem. 1,2, Class 1, Cr. 1-3 Restrictions:
Instructor Permission

This course provides students that have completed the research experience in ABE 22600 and ABE 22700 an opportunity to continue their professional development by serving as peer leaders in the classroom. ABE 22600 and ABE 22700 are part of the Howard Hughes Medical Institute's (HHMI) Science Education Alliance and provide an authentic laboratory research experience with students engaged in hands-on discovery as a scientist with the ultimate objective of contributing new viral genomes to the scientific literature and public databases. As part of the model for implementing the course-based undergraduate research experience in ABE 22600 and ABE 22700, senior level students that successfully completed those courses serve as peer leaders in the classroom. Peer leaders attend the course section along with the currently enrolled students and build competencies in leadership by guiding their team on their research project throughout the semester.

Reason: This course has been taught successfully as a temporary course and it is now being submitted for a permanent course number. This course provides academic/curricular structure to the ongoing Leadership in Biotechnology professional development opportunity.



ABE495: Leadership in Biotechnology
Fall 2020

Instructor

Dr. Kari Clase, kclase@purdue.edu

Meeting times: Students will meet once per week as a group (Mondays from 6:00 to 7:00 pm), attend laboratory sessions, and virtual lab research group meetings weekly throughout the semester. The schedule for the laboratory session and research group meeting will be determined based upon availability of the students.

Outcomes:

The overall goal for this course is to provide students that have obtained course undergraduate research experience through ABE 22600 and ABE 22700 as students, to continue their professional development by developing and applying leadership skills within an authentic environment.

More specifically, students will:

- mentor peers in the use of scientific practices
- guide peers through the process of discovery including iteration as their team isolates and characterizes a unique mycobacteriophage and designs a phage synthetic biology research project
- mentor peers in collaboration by guiding their efforts to work productively together on a team and communicate the results of their project

Course Expectations:

- Students are required to attend weekly peer leader group sessions and attend and assist in weekly ABE 22600 lab sessions
- Students will follow the same attendance policy per the ABE 22600 course with the following modifications **during COVID-19:**
 - Students should stay home and contact the Protect Purdue Health Center (496-INFO) if they feel ill, have any symptoms associated with COVID-19, or suspect they have been exposed to the virus.
 - *In the current context of COVID-19, absences will have no negative effect on your grades.* You will be provided with a small assignment to make up for any missed lab activities or research meetings.
 - When conflicts can be anticipated, such as for many University-sponsored activities and religious observations, the student should inform the instructor of the situation as far in advance as possible.
 - For unanticipated or emergency conflict, when advance notification to an instructor is not possible, the student should contact Dr. Clase as soon as possible by email. When the student is unable to make direct contact with the instructor and is unable to leave word with the instructor's department because of circumstances beyond the student's control, and in cases of bereavement, quarantine, or isolation, the student or the student's representative should contact the Office of the Dean of Students via email or phone at 765-494-1747.

Assessment:

Students will be assessed based upon the performance of their group, including the successful preparation and presentation of their phage research project. Students will also provide a final report of their leadership experience including reflection on their group's research deliverables and outcomes and professional leadership plan for continued development. Final report will be due Friday, December 11, 2020.