

**ABT 395/399: COURSE DESCRIPTION AND
INSTRUCTIONS FOR WRITTEN REPORTS AND ORAL PRESENTATIONS
Fall 2017**

COURSE COORDINATOR

Aardra Kachroo, 215 Plant Science Building; campus mail 0312; 218-1292, apkach2@uky.edu
OFFICE HOURS: Arranged as needed.

COURSE DESCRIPTIONS

ABT 395: Independent study in biotechnology under the supervision of a faculty member. 1 to 4 credit hours/semester. Normally, students are enrolled for 3 credits when the course will be completed in an academic semester and 4 credits when the project extends over the summer or more than one semester. The course may be repeated to a maximum of 6 credit hours, but enrollment up to 6 credits requires completion of the required 3 or 4 credit course; i.e., a student cannot enroll in additional credit hours until they receive a grade that meets the program requirement.

Prerequisite: Agricultural Biotechnology major and consent of advisor before registration.

ABT 399: An internship in biotechnology under the supervision of a faculty member. Course may be repeated to a maximum of 6 credits, as described above.

Prerequisite: Consent of the instructor and chairperson for the Agricultural and Medical Biotechnology degree program, and completion of a learning contract before registration. For the Spring 2017 semester, Dr. Aardra Kachroo or the student's academic advisor can sign the learning contract as the faculty sponsor, and Dr. Luke Moe will sign as the Department Chair. The learning contract is located at: https://abt.ca.uky.edu/files/2014_internship_learning_contract.pdf. The completed learning contract should be submitted to the CAFE Office of Student Success, N24C, Agricultural Science Center North.

ESSENTIAL COURSE REQUIREMENTS

Please note that there are 4 essential elements required to successfully complete your independent course of study:

1. Verification of an approved Research Project Proposal (or learning contract if ABT 399).
2. Completion of the approved research activities under the supervision of a faculty mentor.
- 3&4. Submission of a Written Report and presentation of an Oral Report (see below) **approved by the research mentor. It is imperative that you discuss your report and presentation with your mentor to allow them the opportunity to comment/edit/approve. This is more than just a courtesy since the data are "owned" by the lab (ie., the faculty member or company where you did your project).**

VERIFICATION OF APPROVED RESEARCH PROJECTS AND MENTORS

All currently enrolled ABT 395/399, or previously enrolled* students who have earned an "Incomplete" as a course grade, must indicate on the Student Information Sheet when your ABT 395/399 proposal was approved and by whom. If your proposal is the proposal that you completed in ABT 301, please provide the semester you took ABT 301 and the instructor's name.

*If you have already filed a Student Information Sheet (from a previous semester), and the contact and project information have not changed, then just state this fact on the Fall 2017 sheet and return it to me.

Note: Student Information sheets are due by **Thursday, August 31.**

An informational meeting will be held **at 5:00 PM on Thursday, September 7 in the foyer of the Plant Science Building. This meeting is MANDATORY and intended to answer any questions you may have.**

ASSIGNMENT OF COURSE GRADE

The final grade will be composed of the following components:

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| 50% | ^a Research mentor's evaluation of the student's performance in all aspects of the project (effort, engagement, data production and analyses, quality of writing and presentation, etc.) |
| 20% | ^b Written Report |
| 20% | ^b Oral Presentation |
| 10% | ^b Student's compliance with course instructions (e.g., turn in the Student Information Sheet and class materials on time, etc.) |

^aThis portion of the course grade will be determined after consultation with the research mentor/faculty member.

^bThis portion of the course grade will be determined by the course coordinator.

INSTRUCTIONS FOR ORAL PRESENTATIONS

1. Students must supply to Dr. Kachroo by **5 PM, November 27**, the title of their presentation and the full name, departmental affiliation, and e-mail address of their research mentor. The mentors will be contacted at this time to confirm that the student is ready to give the presentation.
2. The final presentation schedule will be posted on the ABT homepage on **Friday, December 1** and disseminated to research mentors and the university community at large.
3. Oral ABT 395/399 research presentations are scheduled to begin **at 1:00 on Tuesday, December 5** in the ground floor auditorium (Cameron Williams Lecture Hall) of the Plant Science Building. However, this schedule may change depending on the number of students presenting this semester.
4. Dr. Kachroo will try to schedule a student's seminar time to accommodate their class schedule, etc. However, **those students who turn in the required information about their seminar early (see #1 above) will be given preference** in terms of which time they will be scheduled to present.
5. Presentations (a PowerPoint slideshow) should be about **12 minutes** in length. A 2 or 3-minute question session with the audience will follow each presentation. Although priority of questions will be given to ABT students in the audience, presenters should expect additional questions from faculty members.
6. Individual student practice sessions (PowerPoint slideshow) can be arranged with Dr. Kachroo up through November 21. Alternatively, Dr. Kachroo may be able to review your presentation and make suggestions through e-mail, if you send your Powerpoint file by November 22.

INSTRUCTIONS FOR WRITTEN REPORTS

1. One copy of your written report – **signed by your mentor** - is due in Dr. Kachroo's office by **12 PM December 8, 2017**. Alternatively, you may send Dr. Kachroo your report by e-mail **if** it is accompanied by your mentor's digital signature or an e-mail from your mentor saying that they have approved the report.
2. The ABT 395/399 written report must be in the form of a scientific journal article of your mentor's choosing.
3. However, the written reports **MUST CONTAIN** the following components:
 - a. Cover Page – Title and list of Authors and their affiliations, and signature of the sponsoring research mentor.
 - b. Abstract – An abbreviated summary of the report's elements (below).
 - c. Introduction – A brief presentation/introduction of topical concepts required by the uniformed reader to understand the background and rationale for your study.
 - 1) This section should **state the experimental hypothesis** being tested (e.g., "The goal of this experiment was to test the effect of X treatment on Y parameter.") **or the purpose of the research** (e.g., "The purpose of the experimentation was to develop an X assay to measure Y parameter.")
 - 2) This section should be less than 900 words.
 - d. Materials and Methods – a description of critical reagents, procedures, and assays used to generate experimental data.
 - 1) Note: this section must contain a statement indicating that conductance of the experimentation complied with the specific applicable Chemical Hygiene, Radiation Safety, Institutional Biological Safety, and Institutional Animal Care and Use protocols required for you to conduct your project.
 - 2) The experimental design and methods used to statistically analyze your data need to be presented, including a description of all relevant "control" observations for your assays and the number of observations ("n") for each data group.
 - e. Results – The formal presentation and description of your experimental data.
 - f. Discussion – A written discussion of your data in terms of what the results revealed, how your data compare to what others have seen in analogous experiments in identical or comparable experimental models, and the physiological/practical relevance of your observations to a given experimental/biological model and/or field of research. Note: sometimes it is useful to combine the Results and Discussion sections into a single manuscript component (i.e., a "Results and Discussion" section).
 - g. Conclusions – A formal statement about the conclusion(s) drawn from your data as it applies to the goal/hypothesis tested in the experiment. That is, did you accept or reject the experimental hypothesis? Was an assay successfully developed? Or, was the data inconclusive for whatever reasons?
 - h. References – A listing of the sources for the citations used in your report.

SUMMARY OF IMPORTANT DATES/DEADLINES FOR Fall 2017 ABT 395/399

1. **August 31** – Your completed Student Information Sheet is due by e-mail*.
2. **September 7** – Mandatory informational meeting at 5:00pm, foyer of the Plant Science Building.
3. **November 27, by 5 PM** - All students must e-mail Dr. Kachroo with the title of their talk; the full name, departmental affiliation, and e-mail address of their mentor; and any class conflicts with the presentation date/time. **Note that this is a firm deadline.**
4. **December 1** - The announcement/speaker schedule for the oral presentations will be posted around campus and on the ABT homepage.
5. **December 5** - Oral presentations will begin at 1:00 PM in the Cameron Williams Lecture Hall of the Plant Science Building. Depending on the number of students presenting, an additional session of presentations may be required and will be scheduled for **December 7**.
6. **December 8, by 12 PM** - The written report, **signed** by your faculty research mentor is due in Dr. Kachroo's office. **Alternatively**, you may send your report by e-mail **if** it is accompanied by your mentor's digital signature or an e-mail from your mentor saying that they have read and approve the report.

*If you have already filed a Student Information Sheet from a previous semester and the contact and project information have not changed, then just state this fact on the Fall 2017 sheet and return it to Dr. Kachroo.