

CSS/FOR/HRT/CSS451 Syllabus

Instructors:

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Office hour for questions:

10:00AM-12:00 AM, Wednesdays or other time by appointment

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Lecture: 12:40-2:30 PM, Tuesday, B109, Plant & Soil Sciences Building (PSSB)

Laboratory: 2:30-4:30 PM, Tuesday, A111, PSSB

Textbook: Gene Cloning and DNA Analysis: An Introduction—6th Edition, by T.A. Brown (The Student Book Store)

Prerequisite: CSS 350 (or ZOL 341) and CSS 441.

Course Goals & Learning Objectives

- **Theoretical Knowledge:** Understand foundational and emerging strategies in biotechnology from lecture content.
- **Practical Laboratory Skills:** Gain hands-on proficiency in key techniques, including:

- Plant tissue culture & transformation
- Gene cloning & editing (e.g., CRISPR)
- Molecular analysis (DNA/RNA Isolation, PCR)
- Sequencing & genomic data interpretation
- Genetic marker & genetic map construction
- **Critical Analysis:** Critically evaluate the development, use, and impact of genetically modified organisms (GMOs) in agriculture.

Expectations of students:

- Attend class and be on time
- Following instructions to handle the experiments carefully and **safely**.
- Complete assignments
- Be prepared by reading required reading

AI policy to this course:

1. Do not use generative artificial intelligence (GAI) to generate answers for graded assignments unless explicitly instructed to do so. Violations will be considered academic dishonesty and subject to disciplinary sanctions as determined by the University.
2. Your insights, arguments, and descriptions should be your original thoughts. Using GAI to refine or paraphrase your work is acceptable, but the core ideas must be original. If you use GAI to help outline, edit, or aid in completing an assignment, you must cite this and provide a 1-2 sentence description of how GAI was used (e.g., editor, idea generator, data visualization). Failure to cite GAI use, like any other source, is considered plagiarism.

Note: The above policy is adapted from other courses and applies only to this course. In case of new developments in AI ethics or technology during the semester, the instructor reserves the right to amend this policy to protect academic integrity and ethical standards.

Grading:

The course grade will be determined by evaluating students' performance and participation in five different areas:

<u>Homework:</u>	10%
<u>Quiz:</u>	10%
<u>Laboratory notebook evaluation</u>	20%
Components (purpose, M&M)	15%
Contents (requisite experiments):	75%

Style	5%
Neat & Organized	5%
<u>Semester exams (midterm I, II, 25% each):</u>	<u>50%</u>
<u>Research proposal</u>	<u>10%</u>

AI policy to this course:

Note: Students are required to notify the instructor or TA of any anticipated absence or need for a homework extension before the class. **Failure to obtain permission for an absence will incur a 5% deduction from the total course grade.**