

**Undergraduate Outcomes in FSHN Courses**

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Course Number and Name FSHN 421 – Food Microbiology Lab

To what extent do you focus on the following learning outcomes in this class? Use a scale of 0 to 3, where:

0 = don't do this at all

2 = spend a moderate amount of time on this

1 = touch on this only briefly (once or twice)

3 = this is a major focus of the course

Put your numerical score in the second column. For all items with a score >0, in the next column list the class activities you use that relate to this outcome (e.g. individual or group oral presentations, class projects, etc.). In the last column, tell how you assess student performance in this area (e.g. written exams, instructor evaluation of student performance or product, peer- or self-evaluation, etc.)

Outcome	Score	Activities	Assessment Methods
1. Increase technical competence in field of study	3	Planned laboratory experiments using specific techniques; 3 independent projects students design and carry out	Written quizzes, in-class exam, and take-home exam for technical knowledge; practical exams in which students must demonstrate use of techniques; instructor observation of student performance in the lab; instructor evaluation of project results and reports; final student self-assessment on their confidence in performing technical tasks; final conference with each group
2. Communicate effectively with others			
a. one-on-one	1	Students must talk to each other as they conduct their experiments	Instructor observation of student interaction
b. in small groups	3	Students work in teams throughout the course to conduct all experiments and independent projects	Instructor observation; 3 student self-assessment surveys on group interaction; final student self-assessment survey
c. in large groups	2	Teams present results of 3 projects to the whole class	Instructor evaluation of oral reports; peer assessments range from single question to form that follows rubric for oral presentations
3. Solve problems as a team	3	3 independent projects designed, executed, analyzed, and reported on by a team	Instructor observation of performance and evaluation of written and oral products; peer and teaching assistant evaluation of oral reports
4. Solve problems as an individual	3	Each person must master all lab techniques and contribute to the efforts of the team.	Instructor observation of student performance in lab; take-home exam is problem-based and must be done individually
5. Find (if necessary) and accurately interpret:			
a. research literature	2	Report for last project includes a research literature review.	Instructor evaluation of final research report.
b. industry data	0		

c. class data	2	Results of planned experiments are summarized and compared in class discussions.	Instructor evaluation of class discussion
6. Evaluate information in the media/popular press	0		
7. Prepare and deliver technical information to the public:			
a. orally	0		
b. in writing	1	Letter to a layperson explaining results of a project.	Instructor evaluation of letter written to a layperson.
8. Prepare and deliver technical information to professionals:			
a. orally	3	Oral reports by groups on 3 independent projects, delivered to an audience of peers.	Instructor and peer evaluations of oral reports; final student self-evaluation
b. in writing	3	Written reports by groups on 3 projects, each in a specific style; lab notebook must be kept and be usable by others.	Instructor evaluation of written reports; final student self-evaluation
9. Discuss applications of the profession's code of ethics	0		
10. Discuss social and multicultural dimensions of issues	0		
11. Discuss environmental dimensions of issues	0		