

FOOD MICROBIOLOGY LABORATORY
The Ohio State University

(MICRO 5546/FST 5546)

Spring Quarter

3 credits

<http://www.carmen.osu.edu>

INSTRUCTORS

Ahmed E. Yousef Professor
Dept. of Food Science and Technology
Dept. of Microbiology
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Teaching Assistants Two from Department of Microbiology
Two from Department of Food Science and Technology

LABORATORY:

Bio. Sci., Room 315 and/or 332

Monday	12:40 - 2:45
Wednesday	12:40 - 2:45
Friday	12:40 - 1:35

COURSE OBJECTIVES

Students completing this course should:

- Acquire basic skills relevant to food microbiology laboratories
- Be able to experimentally assess the microbiological quality and safety of food
- Gain experience handling foodborne pathogens
- Gain understanding of the concepts behind laboratory exercise methods

REQUIRED MATERIALS

Handouts containing procedure for each laboratory exercise will be distributed in class. Students are responsible for picking up handouts.

RECOMMENDED READING MATERIALS

- Yousef, A.E., and C. Carlstrom. 2003. Food Microbiology: A Laboratory Manual. Wiley & Sons, Inc., Hoboken, NJ.
- Downes, F.P., and K. Ito. (eds.). 2001. Compendium of Methods for Microbiological Examination of Foods, 4th Ed. American Public Health Association, Washington, D.C.
- FDA Bacteriological Manual
(<http://www.fda.gov/food/foodscienceresearch/laboratorymethods/ucm2006949.htm>)

The books will be held on reserve in the Biological Sciences Library

GRADING

See laboratory schedule for assigned question sets and reports

Assignment	Number	Percentage
Question sets	8 (3 pts. each, best 7)	21
Lab Reports	3 (7 pts. each)	21
Mid-term exams (written and practical)	1	20
Final exams (written and practical)	1	20
Exercise Summaries/pop quizzes	Each lab period	10
Technique/Safety/Participation/Discretionary	Each lab period	8
Grand Total		100

Final Grade

Final grades will be based on the relative performance of the individual students within the class. A grading curve will be constructed with a median (B-). **The instructors reserve the right to skew grades below or above the grade median for exceptional or less than exceptional classes.**

ATTENDANCE POLICY

This is a laboratory course in which actual instruction and demonstration occurs only during class time. This course is designed so that students will be working in pairs and groups of 4 on most, if not all, tasks. Therefore, in order for students to complete tasks in a timely manner and collaborate with their partner(s), attendance is mandatory. Each student has a maximum of 2 potentially "excused" absences. Whether an absence is "excused" or not, is determined by instructors. Acceptable "excuses" are only applied to unavoidable circumstances (i.e., illness, car accident, etc.) and documentation is required (i.e., doctor's report). Absence will not be excused for extracurricular activities, weddings, funerals, vacations, etc. Each unexcused absence will result in a reduction of the student's final grade by 2%.

ACADEMIC MISCONDUCT

Academic misconduct is defined in the Code of the Student Conduct (3335-23-04, http://studentaffairs.osu.edu/resource_csc.asp) and the Rules of the University Faculty (3335-31-02, <http://www.acs.ohio-state.edu/offices/oaa/procedures/1.0.html>). Academic misconduct will not be tolerated. If questions arise, please refer to the web sites listed or ask the

instructor. Any suspected violation of the Code of Student Conduct will be forwarded to the Committee on Academic Misconduct. Discussion of laboratory results with classmates is encouraged. This does not constitute academic misconduct.

Examples of misconduct include, but are not limited to:

- 1) Plagiarizing another person's work, including work from books, journals, the internet and another student's report.
- 2) Copying another student's answers during an exam.
- 3) Fabricating laboratory results.

Consequences for plagiarism will become more severe as the quarter progresses. As this issue will be discussed during class time, exceptions to stated consequences will not be made in cases of unintentional plagiarism. Confer with instructors in advance to avoid this issue.

DISABILITY SERVICES

Any student who may need an accommodation because of a disability should contact the instructor privately to discuss specific needs. The Office for Disability Services assists faculty in verifying the need for accommodations and developing accommodation strategies. Students with disabilities are encouraged to contact the Office for Disability Services at 614-292-3307, room 150, Pomerene Hall.

LABORATORY ASSIGNMENTS

Question sets and lab reports are required as **hard copies**. Laboratory assignments should be typed and double-spaced. For these assignments, each student is required to provide independent work, unless otherwise noted. References should be formatted following the style of the American Society for Microbiology (ASM), as summarized on Carmen. Due dates for assignments are displayed in the lab schedule. Assignments will be returned to the instructor indicated on the schedule, on the due date, at the beginning of the laboratory period.

A late assignment should be delivered as a file in Carmen's dropbox, and this late assignment will be graded as follows:

Received after 1:00 PM on the due date (between 1:00 PM and 11:59 PM): 10% off

***Note: assignments received after the first fifteen minutes of the laboratory period will be considered late and subject to a 10% penalty.**

Received between 12:00 AM and 11:59 PM the following day: 20% off

No assignments will be accepted after 11:59 PM the day following the due date, this includes weekends.

EXAMINATIONS

There will be one mid-term and one final exam. Each exam will consist of a written portion and a practical portion, with grading weighted somewhat heavily toward the written portion. The final will not be comprehensive. The mid-term exam will take place **Feb 23rd**, during the regularly scheduled class time. The final exam will take place **April 27th**, during the regularly scheduled class time (12:40-2:45).

EXERCISE SUMMARIES

Students must come to lab prepared and knowledgeable about the exercises that will be performed each day. The exercise summary should contain all pertinent information necessary to complete the lab exercise. Every day, students are expected to bring a single sheet summarizing the procedures for each day and any tables needed for data collection. The summaries may be handwritten or typed. Students will not be allowed to bring the lab packets to their benches due to safety reasons. Simply removing the day's instructions from the laboratory handout is not acceptable. Summaries will be checked on a daily basis. Plastic sheets will be distributed to hold exercise summaries. Sheets should be sanitized at the end of the laboratory period.

Guidelines: The exercise summary should include the following:

Date

Title of Exercise – brief title, including period number.

Annotated Flow Chart – In most laboratory exercises there is a flow chart provided. Simply copying this flow chart is insufficient, but it is a good place to start. The flow chart should include pertinent information for the student to complete the lab (i.e., volumes, times, etc). The detail necessary on the flow chart is unique to each student. If unfamiliar with a technique, more details will be needed, compared to familiar techniques.

Tables – usually taken from lab packet. Make adjustments as necessary.

Please keep in mind that the exercise summaries are for the student's benefit; please include information in the format that is the most useful for you in the lab.

QUIZZES

Unannounced pop quizzes will be given throughout the quarter at the beginning of the lab period. Quizzes will be based on information from the lab packets or lectures. There is no set number of quizzes to be given.

TECHNIQUE/SAFETY/PARTICIPATION/DISCRETIONARY

Discretionary points will be awarded by instructors based on understanding of and preparation for the lab exercise, gauged by participation (answering questions) in lectures. Punctuality, attitude, observance of laboratory safety guidelines, etc. will also be considered.

RE-GRADING POLICY

The instructors and teaching assistants work very hard in this course to grade assignments fairly and consistently, including comments on these assignments. However, grading issues do arise. If you believe that a mistake has been made regarding the grading of an assignment, please do the following:

- 1) Make a copy of the assignment you turned in.
- 2) Attach a typed description of the grading issue to the front of the copy.
- 3) Hand this in to the instructor in charge of that particular assignment.
- 4) This must be returned to the instructor within **one week** of when it was returned.
- 5) The instructor will inform you of their decision within one week of receiving your request.

Do not discuss issues with grading during class time with instructors. Instructors will not discuss these issues verbally with students until you have completed steps 1-4 above. Completion of these steps does not guarantee that points will be returned to the students, but the instructor will explain their final decision to the student.