

MBIO 2815 – Introduction to Microbiology
Fall 2005

MBIO 2815 is a general-education, natural sciences course. In this course, you will learn that microorganisms, good and bad, are literally everywhere. Specifically, you will learn about the basic biology of microorganisms, survey the roles of microorganisms in the ecosystem, learn how microbes fit in industrial and environmental settings, discuss microorganisms as causes of human disease, and learn of host responses to microbial invasion. This course is worth five credit hours, of which three come from lecture and two come from laboratories.

Instructor: **Dr. Mariëlle Hoefnagels**, Depts. of Botany/Microbiology and Zoology
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Phone number: 325-5705
Office hours: Monday 1:00-4:00 p.m.; Tues. 8:30-10:00 a.m.; Wed. 9:30-11:00 a.m. (or appt.)

Laboratory Personnel:

Dr. Eileen Hotze (Lab Coordinator); **Cindy Russell** (Media Prep Center Supervisor)
Dr. David Elmendorf, Scott Maddox, Joyce Barksdale, and Yamil Sanchez-Rosario (Lab Instructors)

Class Times:

Lectures (GLCH 131): Monday and Wednesday, 8:05-9:20 a.m.
Laboratories (GLCH 337 or 339): Tuesday AND Thursday, 8:30-11:20 a.m. OR 1:30-4:20 p.m.

Required Texts and Materials:

Text: *Microbiology: Principles and Explorations*, 5th ed. Black. 2002, John Wiley & Sons.

Lab Manual: *Microbiology: Laboratory Theory and Application*, 1st ed. 2002. Leboffe and Pierce. Morton Publishing Co.

H-ITT wand: You can buy either a “2-eye” or a “3-eye” model at the bookstore or from a student on SIN.

Other Resources:

Course web site: <http://faculty-staff.ou.edu/H/Marielle.H.Hoefnagels-1/>. Among other things, you can find **old exams** on my website.

Learn@OU (current grades; course documents; case study quizzes): <http://learn.ou.edu>

Web site for textbook (on-line study guides and more): <http://www.wiley.com/college/black>

Point distribution:

Item	Number	Points (ea.)	Total Points
Midterm Exams	2	125	250
Final	1	200	200
Case Studies	8	10	80
Pop Quizzes	23 or more*	3	70
Laboratory			400
TOTAL			1000

* If we have more than 23 H-ITT quizzes, I will drop your lowest scores.

Format of exams, quizzes, and assignments:

- **Midterm exams (125 points each):** Format will be entirely scantron (multiple choice, true-false, etc.). Midterms will emphasize material from lecture and case studies, but may draw from specific readings from the textbook, as noted
- **Final exam (200 points):** Format will be entirely scantron. 100 points will come from the third section of the course, and 50 points will come from each of the two sections already covered by midterms.

- **Case Studies (80 points):** Every other week, you will break into small groups and discuss a case study about an infectious disease. Participation (as measured by a sign-in sheet) will count for 5 points; answering a question about the disease online at Learn@OU will count for another 5 points. You will need your textbook in lecture on Case Study days!! Please check the lecture schedule for days that you will need your textbook.
- **Pop quizzes (70 points)** will be unannounced, and questions may appear at any time during lecture. Each will be worth 3 points. They will usually require you to use your H-ITT wand. If I give more than the 23 needed to acquire 70 points, I will drop one or more of your lowest score(s).
- **Laboratories (400 points):** Grading policies will be discussed during the first lab meeting.

Semester grades will be assigned according to the following scale (subject to adjustment if necessary): **A = 90% and above; B = 80-89%; C = 70-79%; D = 60-69%; F = 59% and below.**

Make-ups:

- **Midterms:** No make-ups. However, the final exam will be structured in sections corresponding to each of the three sections of the course. If you miss one midterm exam, you will receive a score for that midterm equivalent to your score (percentage basis) on the corresponding portion of the final exam. In that case, you *may not* take advantage of the improvement policy described below. If you miss both midterm exams, you will receive for the first missed exam a score equivalent to the corresponding portion of the final exam, and a zero on the other.
- **Final exam:** University policy prohibits make-ups for final exams except for *emergencies* (personal illness or serious illness or death in immediate family) or *academic conflict* (more than two exams in one day or two at the same time). Please note that if you work, you are responsible for arranging your work schedule to enable you to attend the final exam. University policy also prohibits early final exams.
- **Pop quizzes:** No make-ups. In addition to helping you keep up with the course material, the pop quizzes are designed to encourage your attendance in class; this purpose would be defeated if you were allowed to make them up. If we have more than 23 pop quizzes, however, I will drop one or more of your lowest pop quiz scores. Also, you will be allowed two “Get out of H-ITT free” cards for days when you are in lecture but forgot your wand or your wand’s batteries die.
- **Case studies:** If you must miss a case study discussion for a good (and unavoidable) reason, you must let me know as soon as possible. I will deal with absences on a case-by-case basis.
- **Laboratories:** Policies will be discussed during the first lab session.

Improvement policy: Suppose you really mess up on one of the midterm exams. Not to worry, because you will have a chance to redeem yourself (*but only if you have not missed either midterm*). As noted above, the final exam will be structured in sections corresponding to each of the three sections of the course. When I calculate your grade, I will compare your score (percentage of possible points) on each section of the final to your score on the corresponding midterm. If your score on one section of the final is higher than the corresponding midterm score, I will award you the difference. If you improve in more than one section, I will award you only the points for the single greatest difference. Note that *I will not take points away* if you happen to do worse on a section of the final than you did on the corresponding midterm!

Other policies:

- **Attendance:** This class requires your attendance for pop quizzes and case studies. These activities encourage your active participation in the course. In addition, students who attend lecture have a much better chance of doing well on exams than students who do not. Your attendance is required in labs; your TA will discuss lab attendance policies during the first lab meeting.
- **Academic misconduct:** Academic misconduct includes cheating, plagiarism, falsification of records, unauthorized possession of examinations, intimidation, and any other action that may improperly affect the evaluation of your performance. It also includes assisting others in any such act or attempts to engage in such acts. Penalties may include grade penalties and disciplinary action from the University’s Academic

Misconduct Board. For more on academic misconduct, visit the following website:

<http://www.ou.edu/provost/integrity/>

- **Reasonable accommodation:** Any student in this course who has a disability that may prevent him or her from fully demonstrating his or her abilities should contact me personally as soon as possible so we can discuss accommodations necessary to ensure full participation and facilitate your educational opportunities.
- **PLEASE turn off cell phones** and other noisy devices during class. Also, I encourage your enthusiasm and participation, but please do not socialize during class, as it is very inconsiderate of fellow students.

E-mail contact with the class: I occasionally e-mail the whole class at once to make important announcements, send reminders, etc. *It is always best if you use your OU email.* But if you use a different one, please follow these EASY instructions that will enable my e-mails to the class to reach you:

1. Go to <http://account.ou.edu>
2. Log in using your OUNet ID and OUNet Password.
3. Enter the email address you use at “Forward the above acct to:”

You’re done! Now all your OU e-mail will go automatically to the e-mail address you use. (Please note that OU does not guarantee email delivery to non-OU email accounts.)

****Check your e-mail frequently!** You never know when one of your instructors might send you an important reminder.

Summary of important dates (see academic calendar for more information):

Midterm Exam 1: Monday, October 3 (Week 7)

Midterm Exam 2: Wednesday, November 2 (Week 11)

Final Exam: Wednesday, December 14, 10:30 a.m. – 12:30 p.m. (no early finals by University policy)

Last day to drop classes without a grade record: Friday, September 2 (end of Week 2)

Last day to drop (automatic “W”): Friday, September 30 (end of Week 6). Please note that if you withdraw any time *after* this date, I will give you a W for the class if you have a chance to pass at the time of withdrawal. If you will fail, academic standards require that you receive an F.

Petition to dean required to drop (“W” or “F”): October 31 to December 9 (beginning at week 11)

DID YOU KNOW????

Universities expect you to spend 2-3 hours of study time **OUTSIDE OF CLASS** for *each hour* spent in lecture! There is a lot of material to cover in any introductory course, but you can do very well in this class (indeed, in any class) if you decide to make that commitment to your education. See me if you need suggestions for studying.

MBIO 2815 Lecture Schedule (subject to change)

(Your T.A. will distribute laboratory schedules during the first lab meeting)

Week	Date	Lecture Topic	Approx. Reading (5/e)	Approx. Reading (6/e)
1	Mon. Aug. 22	Introduction to class, biology		
	Wed. Aug. 24	Intro. to microbial taxonomy	Ch. 1 (pp. 4-8), Ch. 9 (pp. 224-245)	Ch. 1 (pp. 1-6), Ch. 9 (pp. 232-253)
2	Mon. Aug. 29	History of micro.; chemistry refresher	Ch. 1 (pp. 10-21), Ch. 2 (all)	Ch. 1 (pp. 8-19), Ch. 2 (all)
	Wed., Aug. 31	Chemistry refresher, continued **CASE STUDY #1**	Ch. 2 (see above)	Ch. 2 (see above)
3	Mon., Sept. 5	<i>Labor Day Holiday</i>		
	Wed., Sept. 7	Cell structure and function	Ch. 4 (all)	Ch. 4 (all)
4	Mon., Sept. 12	Cell structure and function; staining	Ch. 3 (pp. 65-69), Ch. 4 (see above)	Ch. 3 (pp. 68-71), Ch. 4 (see above)
	Wed., Sept. 14	Metabolism **CASE STUDY #2**	Ch. 5 (all)	Ch. 5 (all)
5	Mon., Sept. 19	Metabolism	Ch. 5 (see above)	Ch. 5 (see above)
	Wed., Sept. 21	Microbial growth and its control	Ch. 6 (all), Ch. 12 (all), Ch. 13 (unsure how much) (some of this will be in lab)	Ch. 6 (all), Ch. 12 (all), Ch. 13 (unsure how much) (some of this will be in lab)
6 *	Mon., Sept. 26	Microbial growth and its control **CASE STUDY #3**	Chaps. 6, 12, 13 (see above)	Chaps. 6, 12, 13 (see above)
	Wed., Sept. 28	Catch-up and review		
7	Mon., Oct. 3	MIDTERM 1 📌		
	Wed., Oct. 5	Microbial genetics	Ch. 7 (pp. 163-181)	Ch. 7 (pp. 172-191)
8 *	Mon., Oct. 10	Gene transfer and DNA technology	Ch. 8 (pp. 194-205; 210-217)	Ch. 8 (pp. 204-215; 221-227)
	Wed., Oct. 12	DNA technology; microbial taxonomy **CASE STUDY #4**	Ch. 8 (see above), Ch. 9 (all)	Ch. 8 (see above), Ch. 9 (all)
9	Mon., Oct. 17	Microbial taxonomy	Ch. 9 (see above)	Ch. 9 (see above)
	Wed., Oct. 19	Acellular infectious agents (viruses, etc.)	Ch. 10 (pp. 255-274; pp. 277-278)	Ch. 10 (pp. 264-287; pp. 290-292)
10	Mon., Oct. 24	Acellular infectious agents (viruses, etc.)	Ch. 10 (see above)	Ch. 10 (see above)
	Wed., Oct. 26	Protista, fungi, and animals as parasites **CASE STUDY #5**	Ch. 11 (unsure how much)	Ch. 11 (unsure how much)
11	Mon., Oct. 31	Catch-up and review		
	Wed., Nov. 2	MIDTERM 2 📌		
12 *	Mon., Nov. 7	Host-microbe interactions	Ch. 14 (all)	Ch. 14 (all)
	Wed., Nov. 9	Disease epidemiology **CASE STUDY #6**	Ch. 15 (unsure how much)	Ch. 15 (unsure how much)
13	Mon., Nov. 14	The immune system	Ch. 16 (all), Ch. 17 (pp. 445-465), Ch. 18 (p. 479)	Ch. 16 (all), Ch. 17 (pp. 470-492), Ch. 18 (p. 507)
	Wed., Nov. 16	The immune system	Ch. 16-18 (see above)	Ch. 16-18 (see above)
14	Mon., Nov. 21	Applied and environmental micro. **CASE STUDY #7**	Ch. 25 (pp. 704-713, 721-728), Ch. 26 (unsure how much)	Ch. 25 (pp. 747-757, 765-772), Ch. 26 (unsure how much)
	Wed., Nov. 23	<i>Thanksgiving Holiday</i>		
15	Mon., Nov. 28	Applied and environmental	Ch. 25, 26 (see above)	Ch. 25, 26 (see above)

		micro.		
	Wed., Nov. 30	TBA		
16 *	Mon., Dec. 5	TBA; **CASE STUDY #8**		
	Wed., Dec. 7	Catch-up and review		
Finals	Wed., Dec. 14	F I N A L E X A M, 10:30 – 12:30 🗨		

* Lab practical this week (see lab schedule)

A NOTE ABOUT YOUR TEXTBOOK

In a one-semester class, there is not enough time to cover every single word of every chapter listed above. Therefore, focus your readings on the topics we do cover in lecture, including the diseases we cover in the case studies. Unless I mention something specifically in class that you have to study on your own, lecture exams will not include material that I do not cover in class.