MICR 350 GENERAL MICROBIOLOGY
FALL 2010

INSTRUCTOR INFORMATION:
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COURSE INFORMATION:
Course: Micr 350 General Microbiology
Location: Minard 138
Day and Time: 10:00 - 10:50 AM Mon, Wed, Fri
Office hours: as arranged

TEXT: Microbiology, by Wiley, Sherwood and Woolverton, 7th edition (2008) or 8th edition (2011) or e-edition. A copy of the textbook will be on reserve in the library. The text will be used for reading assignments and pre-class activities.

COURSE WEBSITE: Students are expected to have an NDSU e-mail address and use the “blackboard” system https://bb.ndsu.nodak.edu/webapps/portal/frameset.jsp for this course. Announcements, handouts, assignments, quizzes, grades and miscellaneous information will be posted at this site. Please notify the instructor if help is needed to navigate the blackboard site. All correspondence with the instructor MUST BE through an NDSU e-mail account. Please use “Micr 350” in the subject line of all e-mails.

PRS: A personal response system unit is required for this course. Please bring the unit each class period. Register your PRS unit on BlackboardÆMicr 350 courseÆ“tools”Æ“register PRS unit” by entering transmitter IDÆ“submit”. If you do not register your PRS unit you will not receive points for activities.

COURSE OBJECTIVES: Microbiology 350, General Microbiology, is intended for students majoring in microbiology, biological sciences, physical sciences, pre-professional programs, food safety, biotechnology, clinical lab science, as well as anyone with a keen interest in the microbial world. The course is a prerequisite for almost all other microbiology courses.

To develop a basic understanding and overview of the microbial world by examining the five core themes recommended by the American Society for Microbiology Conference on Undergraduate Education (ASMCUE)

Theme 1: Microbial Cell Biology
Theme 2: Microbial Genetics
Theme 3: Interactions and Impact of Microorganisms and Humans
Theme 4: Microbial Evolution and Diversity
Theme 5: Interactions and Impact of Microorganisms in the Environment

To develop an understanding of the importance of microbiology in daily life
To use basic microbiological information to enhance critical thinking skills to problem-solve
To take personal responsibility for academic success
To develop the ability to think independently and discuss microbiological issues in an intellectual and informed manner

COURSE POLICIES:

a. Attendance: expected. Required on dates mentioned under “Special Topics”

b. Academic responsibility: this course adheres strictly to the NDSU University Senate Policy (section 335) Code of Academic Responsibility and Conduct http://www.ndsu.nodak.edu/policy/335.htm and with the College of Agriculture, Food Systems and Natural Resources Honor System http://www.ag.ndsu.edu/academics/honor.htm. It is the responsibility of each student to follow the academic code including the reporting of incidences of academic misconduct.

c. Mission Statement for Department of Veterinary and Microbiological Sciences:
“VMS serves the local, national and international communities by teaching the concepts and applications of microbiology in a student-centered environment and by using our unique expertise to explore novel research in microbiology and disease pathogenesis. Our department values lifelong discovery, intellectual integrity, collegiality, and diversity.”

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Students are expected to display respectful behavior at all times towards other students and the instructor. "Visiting" in class while the instructor is teaching will not be tolerated and should be reported immediately. Cell phones may be left on "vibrate mode" to receive messages from the notifind system. The use of electronic devices such as cell phones, especially text messaging, is rude and absolutely not allowed in class. Personal laptop computers may be used for Micr350 activity only.

Disabilities: Any student with disabilities or other situation requiring special accommodations in this course is invited to share these concerns with the instructor as soon as possible. PLEASE visit with Disability Services for special testing accommodations as soon as possible.

Examinations:
1. Examination dates:
   - Friday, September 24
   - Friday, October 22
   - Monday, November 22
2. Exams will consist of multiple choice, short answer, true/false, matching, and fill-in-the-blank.
3. Instructor will inform students as to the material included in each exam.
4. Material from the lecture will comprise the majority of the test material, but questions on textbook material may also be included.
5. Students are expected to take examinations at the designated date and time. Make-up exams will be allowed only in the case of serious illness or personal crisis and written documentation supporting the request is required. A make-up test may consist of short answer, essay or oral examination.
6. Students are required to present photo identification at the time of each exam.
7. In case of inclement weather and cancelled classes on a test date, the exam will be held the following class period.
8. The final exam will be comprehensive but will emphasize untested material. The final exam will be held on Monday, December 13 1:00-3:00PM.

Online quizzes: Online quizzes will be posted on the course blackboard website. There will be no points assigned for these quizzes as they are intended to reinforce course material and prepare the student for examination. Posting dates for the quizzes will be announced in class.

Pre-class and Class activities: There will be a variety of "unannounced" individual and group class activities worth 5 points each. There may also be announced pre-class activities which must be completed before class begins each day. Students will be allowed to miss 1 activity without penalty. If a student participates in all class activities they will receive an "extra" 5 points at the end of the semester. Attendance is required to receive these points.

"Microbes are special" reports: Students are to submit a current (not older than 2 weeks) news story from any source (newspaper, magazine, website, radio, television, etc.) on the "Assignments" page of the blackboard course website, through e-mail or in class. The story and story source must both be included. Your name and ID should be written in the upper left-hand corner of the article. Each of the stories will be due during these specific two-week periods.
   - Aug 27-Sept 10
   - Sept 20-Oct 1
   - Oct 11-22
   - Nov 1-12

Special Topics: One assignment worth 100 points is required of all students. Participation in this activity requires attendance in the Micr350L lab section in which you are enrolled on November 3/4 and November 8/9 as well as lecture on Friday, November 12. Students not enrolled in Micr350L will be required to attend 2 extra class sessions 5-6 PM on Wednesday, November 3 and 5-7 PM on Monday, November 8 as well as lecture on Friday, November 12.

There is no extra credit offered in this course other than the previously mentioned.

Study sessions will be held as needed and as requested by students. You are welcome to contact me by phone, by e-mail or in person for assistance in this course, about other questions, concerns, guidance or just to visit.

Students are responsible for the accuracy of their grades. Any discrepancies must be reported to the instructor within two weeks of the assignment, quiz, exam, etc.
Grading:

There will be a total of 600 points, assigned to this course and distributed as follows:

- Examinations: 3 @ 100 points = 300 points, 540-600 = A
- Final examination: 1 @ 110 points = 110 points, 480-539 = B
- Class/pre-class activities: 14 @ 5 points = 70 points, 420-479 = C
- Special topics: 1 @ 100 points = 100 points, 360-419 = D
- Microbes: 4 @ 5 points = 20 points, < 359 = F

Total: 600

Lecture Topics

ASM Core Themes:

Theme 1: Microbial Cell Biology
- Chapter 1: The History and Scope of Microbiology, p. 1
- Chapter 2: The Study of Microbial Structure, p. 17
- Chapter 3: Procaryotic Cell Structure and Function, p. 39
- Chapter 4: Eucaryotic Cell Structure and Function, p. 79
- Chapter 5: Microbial Nutrition, p. 101
- Chapter 6: Microbial Growth, p. 119
- Chapter 7: Control of M/O’s by Physical and Chemical Agents, p. 149
- Chapter 8-10: Metabolism, p. 167

Theme 2: Microbial Genetics
- Chapter 11-13: Microbial Genetics, p. 247
- Chapter 14: Recombinant DNA, p. 357
- Chapter 15: Microbial Genomics, p. 383

Theme 3: Interactions and Impact of Microorganisms and Humans
- Chapter 30: Microbial Interactions, p. 717
- Chapter 31: Non-Specific Host Resistance, p. 743
- Chapter 32: Specific Immunity, p. 773
- Chapter 33: Pathogenicity of Microorganisms, p. 815
- Chapter 34: Antimicrobial Chemotherapy, p. 835

Theme 4: Microbial Evolution and Diversity
- Chapter 16-18: The Viruses, p. 407
- Chapter 19: Microbial Evolution, Taxonomy and Diversity, p. 471
- Chapter 20: The Archaea, p. 503
- Chapter 21-24: Bacteria, p. 519
- Chapter 25: The Protists, p. 605
- Chapter 26: The Fungi, p. 629

Theme 5: Interactions and Impact of Microorganisms in the Environment
- Chapter 27-29: Ecology and Symbiosis, p. 643
- Chapter 40: Microbiology of Food, p. 1023
- Chapter 41: Applied and Industrial Microbiology, p. 1049