Course Description:

Number and Title:

BIOL 3250 (CRN 80734)
Introductory Microbiology

Credit Hours:

3.0 Semester credit hours (3-0-3)

Catalog Description:

Single celled organisms have always been the most populous form of life. This course explores the complex lives of these simple organisms. Students will examine biochemical, genetic and pathological aspects of microbiology. Industrial, ecological, and cultural aspects of human microbiology will be addressed.

Course prerequisite and co-requisite:

Prerequisites: BIOL 1107/L with a C or better, BIOL 1108/L with a C or better; CHEM 2412 (can be taken concurrently)
Corequisite: BIOL 3250L
Note: Due to the corequisite nature of BIOL 3250 and BIOL 3250L, if you withdraw from one of these two courses, you must withdraw from the other also.

Computer Requirement:

- Each CSU student is required to have ready access throughout the semester to a notebook computer that meets faculty-approved hardware and software requirements for the student's academic program. Students will sign a statement attesting to such access. For further information on CCSU's Official Notebook Computer Policy, please go to http://www.clayton.edu/hub/itpchoice/notebookcomputerpolicy.

Computer Skill Prerequisites:

- Able to use the Windows™ operating system
- Able to use Microsoft Word™
- Able to send and receive e-mail from their CSU mail account.
- Able to attach and retrieve attached files via email
- Able to use Microsoft Excel
- Able to use a Web browser.
- Able to use the student tutorial CD that accompanies the text.

In-class Use of Student Notebook Computers:

- Student notebook computers may be used periodically in the classroom in this lecture course and the student will be expected to use their notebook computer to complete classroom assignments and to communicate with the instructor via email. You are expected to check your email daily. This will be a means in which the instructor communicates with you about course assignments.

Software Requirement:

- You will need Adobe Reader or Adobe Professional to access PDF files for this course. Adobe Reader is available for free: http://get.adobe.com/reader

Georgia VIEW (Online Classroom):

- Most course content (PowerPoints, Quizzes, assignments, reviews, etc.) will be posted to GeorgiaVIEW. You should plan to log in daily!
- You can gain access to GeorgiaVIEW, by signing on to the SWAN portal and selecting “GAVIEW” on the top right side. If you experience any difficulties in GeorgiaVIEW, please email or call The HUB at TheHub@mail.clayton.edu or (678) 466-HELP. You will need to provide the date and time of the problem, your GeorgiaVIEW username, the name
of the course that you are attempting to access, and your instructor’s name.

**Student and Instructor Responsibilities:**

We are in this together, guys. We **both** have many responsibilities related to this course. I have listed my expectations of you below and have listed expectations of a good instructor (which I hope to be) below as well. Let’s make certain that we BOTH remember our responsibilities. I will let you know (in private) if you are not meeting my expectations if you agree to meet with me (in private) to let me know if I am not meeting yours.

<table>
<thead>
<tr>
<th>Student Responsibilities</th>
<th>Responsibilities of a Good Instructor</th>
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<tbody>
<tr>
<td>Take NOTES from reading material AND from lecture material. Don’t just download the PowerPoints and call it a day.</td>
<td>Act professionally and never ever humiliate a student!</td>
</tr>
<tr>
<td>Turn in assignments on time and take quizzes on time.</td>
<td>Maintain a learning environment that allows students to participate, be engaged in the material, and ask questions when appropriate.</td>
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<tr>
<td>Buy the textbook (and read it)!</td>
<td>Provide feedback to students on their success and provide feedback to students when they are not successful or not adhering to their responsibilities.</td>
</tr>
<tr>
<td>Come to class on time and ready to learn.</td>
<td>Make deadlines CLEAR in GAVIEW.</td>
</tr>
<tr>
<td>Respect others around you by not being distracting (social media, cell phones, talking in class, etc.).</td>
<td>Listen with an open mind! Everyone makes mistakes so evaluate any error a student feels you made. Correct errors you make.</td>
</tr>
<tr>
<td>Communicate professionally and respectfully to the instructor and/or to other students with whom you are working.</td>
<td>Offer help and resources when a student asks.</td>
</tr>
<tr>
<td>Ask questions when appropriate and come to office hours when additional help is needed. If you hit a road block in life, which is affecting school talk to your instructor early! She may have some good</td>
<td>Communicate professionally and respectfully to your students and let students know if you have to cancel class or office hours for any special reason (in GAVIEW and/or email).</td>
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</tbody>
</table>
Course Learning Outcomes:

Upon completing BIOL 3250 the student should be able to...

- Explain and evaluate the evolution, phylogeny, diversity, genetic transfer (horizontal and vertical) of prokaryotic cells.
- Describe and analyze how microorganisms utilize nutrients in various metabolic pathways to create new biomass and survive in natural and laboratory ecosystems.
- Explain and justify the genetic machinery of prokaryotic microorganisms.
- Solve and analyze growth calculations and describe microbial growth in the laboratory.
- Describe the structure, diversity and replication strategies of viruses and prokaryotes.
- Explain and analyze mechanisms pathogens use to cause disease in a variety of different hosts and some mechanisms used by hosts to defend themselves from pathogens.
- Describe and justify the composition of microorganisms (enzymes, structures, and various biochemical reactions).
- Describe and analyze the ubiquity and diversity of microorganisms and the importance of these aspects to our own ecosystem.
- BE able to apply the process of science, use quantitative reasoning skills to apply his/her knowledge to realistic microbiology problems and effectively communicate fundamental concepts of microbiology.

Program Learning Outcomes:

- Biology Outcomes

  BIOL 3250 is a required course in the B.S. degree program in Biology. It supports outcomes 1, 4, 5, 6 and 7 of the biology major.

  - Outcome 1:  Knowledge of the basic principles of major fields of biology.
  - Outcome 4:  Ability to communicate orally and in writing in a clear, concise manner.
Outcome 5: Ability to collect, evaluate and interpret scientific data, and employ critical thinking to solve problems in biological science and supporting fields.
Outcome 6: Ability to function effectively on team-oriented projects.
Outcome 7: Appreciation for the impact of biological and physical science on the environment and society.

**Teacher Education Policy:** The content of this course syllabus correlates to education standards established by national and state education governing agencies, accrediting agencies and learned society/professional education associations. Please refer to the course correlation matrices located at the following web site

[http://www.clayton.edu/arts-sciences/teachered/standardsoutcomes](http://www.clayton.edu/arts-sciences/teachered/standardsoutcomes)

**Conceptual Framework:**

The mission of the Teacher Education Unit is to prepare professional educators who engage in *reflective practice* and who are *competent, caring, committed, collaborative, culturally responsive*, and prepared to teach diverse learners in an ever-changing society. For the complete CSU Teacher Education Unit Conceptual Framework, follow the link below.

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**Term:**

Fall Semester 2013

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**Instructor:**
Dr. Michelle Furlong  
Office: 128 Faculty Hall  
phone: (678) 466-4778  
e-mail: MichelleFurlong@mail.clayton.edu  
internet: http://faculty.clayton.edu/mfurlong

**Office hours:** [click here.](#) It is important to make an appt. if you want to meet with me outside of office hours (just see me after class and we can schedule it).

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**Class Meetings:**

**Classroom:** University Center U265  
**Class Times:** MW 3:35 pm – 4:50 pm

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**Text Information:**

Biology of Microorganisms, (14th edition), by Madigan, Martinko, Stahl & Clark  
Chapters covered 1-10, 12-13  

Mastering Microbiology (required).

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**Evaluation:**

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<thead>
<tr>
<th></th>
<th>Percentage of Grade</th>
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<tbody>
<tr>
<td>3 In-Class Exams</td>
<td>60%</td>
</tr>
<tr>
<td>Comprehensive Final Exam</td>
<td>15%</td>
</tr>
<tr>
<td>Quizzes/Assignments</td>
<td>25%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>100%</td>
</tr>
</tbody>
</table>
Grading:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>90-100%</td>
</tr>
<tr>
<td>B</td>
<td>80-89%</td>
</tr>
<tr>
<td>C</td>
<td>70-79%</td>
</tr>
<tr>
<td>D</td>
<td>60-69%</td>
</tr>
<tr>
<td>F</td>
<td>below 60%</td>
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Mid-term Progress Report

The mid-term grade in this course, which will be issued on October 1, reflects approximately 30% of the entire course grade. Based on this grade, students may choose to withdraw from the course and receive a grade of "W." Students pursuing this option must fill out an official withdrawal form, available in the Office of the Registrar, or withdraw on-line using the Swan by mid-term, which occurs on October 10. Instructions for withdrawing are provided at this link.

The last day to withdraw without academic accountability is Friday, October 10, 2014.

Course Schedule:

Linked here:  . [http://faculty.clayton.edu/mfurlong](http://faculty.clayton.edu/mfurlong)

Course policies:

- Students must abide by policies in the [Clayton State University Student Handbook](http://faculty.clayton.edu/mfurlong), and the [Basic Undergraduate Student Responsibilities](http://faculty.clayton.edu/mfurlong).

- **University Attendance Policy:** Students are expected to attend and participate in every class meeting. Instructors establish specific policies relating to absences in their courses and communicate these policies to the students through the course syllabi. Individual instructors, based upon the nature of the course, determine what effect excused and unexcused absences have in determining grades and upon students’ ability to remain enrolled in their courses. The university reserves the right to determine that excessive absences, whether justified or not, are sufficient cause for institutional withdrawals or failing grades.

- **Course Attendance Policy:** Attendance is expected for all class periods. Attendance is required for examination periods. Any absence must be accompanied by a written excuse from a doctor or other competent authority.
Without excuse, a grade of zero points will be assigned for any missed work, INCLUDING EXAMS.

If a valid excuse is provided you will be excused from the exam and your final exam will count greater (i.e. 35% instead of 15%). A MAKE UP EXAM WILL NOT BE GIVEN UNDER ANY CIRCUMSTANCES (for regular hourly exams) after the regular class exam has been given. If you miss the final exam without a proper excuse you will receive a 0 on the exam you missed and on the final. Missing the final exam WITH A PROPER EXCUSE will result in a grade of an incomplete. The final exam will be made up within the first week of the next semester or when the student is well enough to return to campus (whichever comes first).

If you miss more than one exam with excused absences, then you will be given a zero on each subsequent exam you missed after the first (you should probably drop or consider a hardship withdrawal if you qualify for one (see academic catalog). Excessive missed exams indicates that you have a hardship that is preventing you from coming to class.

There are no make-up quizzes or assignments under any circumstances. Several quizzes/assignments will be given in Mastering Microbiology and in class, but only 80% of those quizzes will count in the final grade and 80% of the lowest quizzes and assignments will be dropped.

Assignments are due on time. 10% will be deducted each day from any assignment turned in late. If an assignment is up to 24 hours late then you lost 10%. If an assignment is 25-48 hours late then you lost 20% and if it is 49-72 hours late then you will lose 30%. If an assignment is over 72 hours late then it will NOT BE ACCEPTED and you will receive a zero. Assignments can be emailed if you cannot make it to campus, but this should not be a regular practice. Expect to print your own assignments and turn them in. Only use email for your assignments if you are unable to make it to campus to turn it in.

Any type of activity that is considered dishonest by reasonable standards may constitute academic misconduct. The most common forms of academic misconduct are cheating and plagiarism. All instances of academic dishonesty will result in a grade of zero for the work involved. All instances of academic dishonesty will be reported to the Office of Student Life/Judicial Affairs. Judicial procedures are described beginning on page 14 of the Student Handbook (Procedures for Adjudicating Alleged Academic Conduct Infractions)

Specific examples of academic dishonesty:

- Copying a classmates work on exams or assignments (even if you change a couple of words).
- Copying things directly out of the book, a website, an article (even if you change a couple of words). Copying a person's thoughts is dishonest EVEN if you include a citation. Putting quotes around the thought does not make it OKAY. Paraphrase it! Quotes are only suitable if the actual statement (written word for word) is necessary to get a specific point across. Please consult your instructor if you are uncertain.
• Turning somebody else's work in as your own work.
• Using electronic devices (examples: cell phones, computers, tablets, programmed calculators) or notes that are not approved by the instructor on exams or quizzes.

- Disruption of the Learning Environment: Behavior which disrupts the teaching–learning process during class activities will not be tolerated. While a variety of behaviors can be disruptive in a classroom setting, more serious examples include belligerent, abusive, profane, and/or threatening behavior. A student who fails to respond to reasonable faculty direction regarding classroom behavior and/or behavior while participating in classroom activities may be dismissed from class. A student who is dismissed is entitled to due process and will be afforded such rights as soon as possible following dismissal. If found in violation, a student may be administratively withdrawn and may receive a grade of WF.

Please remember, your freedom to talk, use a cell phone or any electronic device, physically act out in class end when it disrupts others from learning or disrupts your instructor from teaching. Please refrain from doing do unless you and the rest of the class are experiencing danger.

A more detailed description of examples of disruptive behavior and appeal procedures is provided at:

http://www.clayton.edu/Portals/5/DisruptiveClassroomBehavior.pdf