



## **Texas A&M University-Commerce**

2600 S. Neal St, Commerce, TX 75429-3011

Biological and Environmental Sciences

Tel) 903-886-5378 Fax) 903-886-5997

Instructor: Molly Jacobsen-Diamond, MS

Email: [mjacobson@leomail.tamuc.edu](mailto:mjacobsen@leomail.tamuc.edu) or [mollyjacobsen19@gmail.com](mailto:mollyjacobsen19@gmail.com)

**\*\*Please note that since this is an online course, e-mail should be utilized as primary form of communication. The g-mail account e-mails will come straight to my phone.\*\***

Class Time: This course is 100% online. You should log-in and check the course **DAILY**. Keep in mind that this is "normally" a 15 week course compacted into a 5 week summer course. The work load will reflect this.

### **REQUIRED course materials:**

- 1) Connect Plus with Learn Smart online access card for Foundations in Microbiology, 9<sup>th</sup> Edition. (see textbook below)
- 2) Foundations in Microbiology, 9<sup>th</sup> Edition. (2015). By Kathleen Park Talaro & Barry Chess. McGraw- Hill Publishers.

ISBN: 9780073522609 (book without Connect Plus)

ISBN: 9781259670565 (book w/ Connect Access card)

ISBN: 9780077731069 (Connect Access card)

ISBN: 9781259172182 (loose lead edition of book with Connex Access Card)

**There are loose leaf, hard cover and e-versions of this book. It does not matter to me which you utilize. Older versions/editions of the text are also acceptable. Just make sure you have both the book and the Connect Access Card.**

### University Statements:

**Academic integrity:** As members of Texas A&M University-Commerce academic community, we all are responsible to underpin the principles of academic integrity expressed by this community. We are expected to watch these principles to be kept and appreciated by others.

- The first instance of cheating will result in an automatic "0" on the assignment. A second occurrence will result in a "0" for the course grade.
- **Plagiarism is a serious academic criminal activity.** You must cite all sources properly. Copying material, whether in part or as a whole, will result in a "0" and can incur further University disciplinary consequences.

**Accommodations:** The American with Disability Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other

aspects, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring accommodation, please contact:

Office of Student Disability Resources and Services  
Texas A&M University-Commerce  
Gee Library- Room 132  
Phone (903) 886-5150 or (903) 886-5835  
Fax (903) 468-8148  
Email: [Rebecca.Tuerk@tamuc.edu](mailto:Rebecca.Tuerk@tamuc.edu)

Website: [Office of Student Disability Resources and Services](http://www.tamuc.edu/campusLife/campusServices/studentDisabilityResourcesAndServices/)  
<http://www.tamuc.edu/campusLife/campusServices/studentDisabilityResourcesAndServices/>

**Access to student work:** Copies of your work in this course, including copies of any submitted papers, may be kept on file for institutional research, assessment, and accreditation purposes. All work used for these purposes will remain anonymous.

### **Course Description**

BSc 254 is for undergraduate, non-biology majors and is designed to investigate the basic principles of microbial life. Microorganisms are virtually ubiquitous and found in close proximity with other forms of life on earth. Unlike macroorganisms (i.e. animals, plants, etc), microorganisms carry out their life processes (such as energy metabolism, growth, and reproduction) independently from other cells. This course will cover eukaryotic and prokaryotic microbes and viruses, the role of microbes in relation to human disease and the immune system, and the immunologic, pathologic and epidemiological factors associated with disease.

### **Student learning outcomes:**

Upon completion of this course, you should be able to;

1. Compare and contrast the basic groups and characteristics of various microbes as well as their role in infections.
2. Understand the processes needed for one bacterium to replicate, and understand mechanisms involved.
3. Compare and contrast major pathways of metabolism, specify the relative energy yield from each pathway, list the key products of each pathway, and describe biochemical pathways used for microbial taxonomy.
4. Compare and contrast major pathways of biosynthesis and list the key products of each pathway.
5. Draw a typical microbial growth curve, and predict the effect of different environmental conditions on microbial growth.

6. Compare and contrast eukaryotic and prokaryotic genomes, and gene expression in each group.
7. List different types of symbiotic interactions between microbes and other organisms, including commensalism, mutualism, and parasitism, and provide examples of each.
8. Summarize common features of microbial pathogens, with emphasis on bacterial pathogens.
9. Understand and explain the role of the immune system in maintaining homeostasis and fighting infections.
10. Evaluate and apply proper methods of microbial control that is necessary for preparing food, maintaining sanitary conditions in the presence of microbes, and proper hygiene and health.

**Online Behavior:** Students are expected to maintain online behavior that includes respect for other students and the instructor, regular attendance, and an attitude that seeks to take full advantage of the educational opportunity. Arguing or rudeness amongst students or with the instructor, whether through Discussion Boards, Messages, or Email, is absolutely not allowed.

**Course Content:** Materials provided for this course include online lectures for individual chapters, online lab exercises, discussion threads, case studies and tests over online lectures and lab exercises. Other supplementary materials will be made available to you at the professor's discretion.

**Exams (50%):** There will be an exam due weekly that will be taken through Course Connect. **You will have from midnight Wednesday each week, until Friday at 11:59 pm to complete the exam.** Note the modified dates for the exam during Week 5. While there is a 48 hour window to complete the test, once you enter the exam, **you will only have 2 hours to complete it. You may only enter the exam one time during the 48 hour window.** Exams will include questions drawn from lectures, handouts, textbook and any other supplemental material that has been provided to you prior to the course. In order to be successful on the exams, read your textbook and complete all homework throughout the week to help you prepare for the test. No exam grades are dropped and no test reviews are given. You have a total of 3 exams and 1 final exam, which is not comprehensive in this course. Remember that each test covers multiple chapters. There will be no more than 4 chapters covered per exam. You will only be able to review questions missed after the due date. There are no make up exams unless the professor is provided, in a timely manner, with an excuse acceptable by the University Handbook (i.e. doctor's note).

**Connect Plus Online Assignments (20%):** Connect Plus online assignments constitute the "laboratory" portion of this course. You will have one of these assignments **due weekly by Wednesday at 11:59 pm.** These exercises will become available to you on Sunday

evenings at 11:59 pm. You may enter the assignments as many times as you'd like and you may print them out to work on them. Assignments will draw questions from all the chapters covered in your reading from that week and are selected at random from a bank of questions that I have selected. Read all textbook reading material for that week prior to completing these assignments. These assignments are completed and submitted through Connect Plus. (See instructions in syllabus on how to register for you Connect Plus).

**Chapter Summaries (10%):** You will write a summary every week over the chapters covered in your reading for that week. These summaries must be in your own words and depict a thorough, clear understanding of the material covered in each chapter. Since multiple chapters are covered each week, you will need to write individual summaries for each chapter but combine them all into one document to submit to the drop box each week **as a Microsoft Word Document**. Each individual chapter summary should not exceed 2 pages in length. Do not attempt to cover material from a portion of the chapter, rather cover **all** major topics/concepts discussed in the entire chapter. Your grade will be reflective of your thoroughness and comprehension of each chapter. These chapter summaries will help you with your exams as well. **Combine all chapter summaries into one document and submit it to the "dropbox" by Friday at 11:59 pm every week.** Any summaries received after midnight will receive a grade of "0" unless prior arrangements have been made with the professor and include an excuse acceptable by University Handbook.

**Discussion (10%):** Each week, I will post either an article, recent event or question that will be "up for discussion" amongst you and your peers. An "initial" response to the topic should be posted weekly **by Tuesday at 11:59 pm**. You should respond to a peer's post (or perhaps mine) by **Friday at 11:59 pm**. The discussion will open weekly on Monday and close on Sunday. Please remember Netiquette. This is not a place to argue but rather to "discuss."

**Case Studies (10%):** There will be 2 assignments, or "Case Studies" throughout the course. Instructions will be included in the assignment. You will be presented with multiple patient cases in which your job is to evaluate the patient's case. Case Studies will be **due by Sunday at 11:59 pm** the week they are assigned (weeks 2 & 5). They should be submitted via "Dropbox" in Microsoft word document form.

### **Connect Plus Online Lab Registration:**

Go to our course website at this link:

<https://connect.mheducation.com/class/m-jacobsen-summer-ii-2015--bsc-254--microbiology>

- 1) Open your Web browser and use the Web address above to access the Connect web site. You will see the course page appear. The course name, section and instructor name is displayed in the lower middle box.
- 2) Click on the "**Register Now**" button to the right of the "**Sign In**" area to access the "**Student Registration**" page.
- 3) Enter your email address and click "**Submit.**" Connect will then check to see if you already have an account set up with McGraw-Hill. If you have, you will be prompted to

login using the email address you entered. If you cannot remember your password click the “**Forgot your password?**” link to have Connect send you an email containing your password to that email address.

4) Next, enter your registration code for the course (should come with your textbook if you bought it new.) You can also buy one online during Registration.

If you need more time to pay for the Connect access, there is also free two week trial access. Register for this at the Registration screen under “Try before buying.”

5) Fill out all the required information on the “**Create an Account**” page. You will also need to accept the McGraw-Hill service agreement by checking the “**I accept**” checkbox.

6) Click the “**Complete My Registration**” button when you have completed the account information. A confirmation page appears letting you know you have been registered and that an email message has been sent to you containing your username and password.

7) Click “**Go to Connect now**” to automatically be signed in and access your course assignments.

#### **Grading Structure:**

Evaluation of the course grade will be comprised of both a lecture grade portion (80%) and a laboratory grade portion (20%). The entire grade is comprised of the following:

Exams (x5 @ 12% each)	50%
Course Connect Lab Assignments (x5 @ 4% each)	20%
Case Studies (x2 @ 5% each)	10%
Discussions (x 5 @ 2% each)	10%
Chapter Summaries (x5 @ 2% each)	<u>10%</u>
	100%

#### **Tentative Course Schedule:**

##### **Week 1: Week of July 13<sup>th</sup>-July 19<sup>th</sup>**

Reading Material: Chapters 1, 4, 5 & 6

Connect Plus Online Assignment: due by Wednesday, July 15<sup>th</sup> at 11:59 pm.

Discussion: initial response due by Tuesday, July 14<sup>th</sup> at 11:59 pm, secondary response due by Friday, July 17<sup>th</sup> at 11:59 pm.

Chapter Summaries: Over Chapters 1, 4, 5 & 6. Summary must be submitted to Dropbox by Friday, July 17<sup>th</sup> at 11:59 pm.

Exam: available from Wednesday, July 15<sup>th</sup> until Friday, July 17<sup>th</sup> at 11:59 pm.

##### **Week 2: Week of July 20<sup>th</sup>- July 26<sup>th</sup>**

Reading Material: Chapters 7, 8, 11 & 12

Connect Plus Online Assignment: due by Wednesday, July 22<sup>nd</sup> at 11:59 pm.

Discussion: initial response due by Tuesday, July 21<sup>st</sup> at 11:59 pm, secondary response due by Friday, July 24<sup>th</sup> at 11:59 pm.

Chapter Summaries: Over Chapters 7, 8, 11 & 12. Summary must be submitted to Dropbox by Friday, July 24<sup>th</sup> at 11:59 pm.

Exam: available from Wednesday, July 22<sup>nd</sup> until Friday, July 24<sup>th</sup> at 11:59 pm.  
Case Studies:

**Week 3: Week of July 27<sup>th</sup>- August 2<sup>nd</sup>**

Reading Material: Chapters 14, 15 & 16

Connect Plus Online Assignment: due by Wednesday, July 29<sup>th</sup> at 11:59 pm.

Discussion: initial response due by Tuesday, July 28<sup>th</sup> at 11:59 pm, secondary response due by Friday, July 31<sup>st</sup> at 11:59 pm.

Chapter Summaries: Over Chapters 14, 15, & 16. Summary must be submitted to Dropbox by Friday, July 31<sup>st</sup> at 11:59 pm.

Exam: available from Wednesday, July 29<sup>th</sup> until Friday, July 31<sup>st</sup> at 11:59 pm.

**Week 4: Week of August 3<sup>rd</sup>- August 9<sup>th</sup>**

Reading Material: Chapters 13, 18, 22 & 23

Connect Plus Online Assignment: due by Wednesday, August 5<sup>th</sup> at 11:59 pm.

Discussion: initial response due by Tuesday, August 4<sup>th</sup> at 11:59 pm, secondary response due by Friday, August 7<sup>th</sup> at 11:59 pm.

Chapter Summaries: Over Chapters 13, 18, 22 & 23. Summary must be submitted to Dropbox by Friday, August 7<sup>th</sup> at 11:59 pm.

Exam: available from Wednesday, August 5<sup>th</sup>, until Friday, August 7<sup>th</sup> at 11:59 pm.

**Week 5: Week of August 10<sup>th</sup>- August- August 13<sup>th</sup>\***

Reading Material: Chapters 19, 20, 21 & 27

Connect Plus Online Assignment: due by Wednesday, August 12<sup>th</sup> at 11:59 pm.

Discussion: initial response due by Tuesday, August 11<sup>th</sup> at 11:59 pm, secondary response due by Thursday, August 13<sup>th</sup> at 11:59 pm. \*

Chapter Summaries: Over Chapters 19, 20, 21 & 27. Summary must be submitted to Dropbox by Thursday, August 13<sup>th</sup> at 11:59 pm.\*

Exam: available from Tuesday, August 11<sup>th</sup> until Thursday, August 13<sup>th</sup> at 11:59 pm.\*

Case Studies:

**\*Note- modified due date.**

**This schedule is subject to change.**