



## **SYLLABUS**

BIO 204: Spring 2013  
Microbiology, with Dr G Cornwall

### **I. Course and Instructor:**

**Format:** Online Web course

**Course Information:**

*Course Title:* Microbiology

*Course Code:* BIO 204 DS21

*Semester:* Spring 2013

*Start Date:* 1/14/13

*Refund Date:* 1/30/13

*Synonym Number:* 71278

*Credits:* 4.0

*Prerequisite:* BIO-111 or BIO-230

*End Date:* 5/3/13

*Withdraw Date:* 4/7/13

**Orientation Note:** You will need to login to this course using CANVAS (Blackboard is no longer being used). For instructions on How to Access your Canvas Account, Canvas How To's, and who to contact for all your Canvas questions and support needs, please visit:

[www.coloradomtn.edu/Canvas/](http://www.coloradomtn.edu/Canvas/) and click on the Student FAQ.

Once you are logged into CANVAS go to the "Orientation Module" from the Modules link in the left sidebar to view a vodcast orientation to this course.

**Computer Access:**

Online courses require frequent computer use and access to the internet. You will NEED to have a personal computer, consistent High-speed Internet access, and a digital camera for use in this course.

**Instructor Information:**

*Instructor Name:* George Cornwall, Ph.D.

*Phone:* (Cell) 303-653-3251

*E-Mail:* [gcornwall@coloradomtn.edu](mailto:gcornwall@coloradomtn.edu)

*Office Hours:* Online

### **II. Course Description:**

Designed for health science majors. Examines microorganisms with an emphasis on their structure, development, physiology, classification, and identification. The laboratory experience includes culturing, identifying, and controlling microorganisms with an emphasis on their role in infectious disease.

PROPOSED SCHEDULE:

WEEK	DATE	LECTURE TOPICS & ASSIGNMENTS	READING
1	January 14 <sup>th</sup>	<ul style="list-style-type: none"> <li>- Main Themes of Microbiology (an overview)</li> <li>- The Chemistry of Biology (a review)</li> <li>✓ LAB: Observing Bacteria &amp; Blood (Pg.53)</li> </ul>	Chapter 1 Chapter 2 Lab Pg 1-24
2	January 21 <sup>st</sup>	<ul style="list-style-type: none"> <li>- Tools of the Laboratory</li> <li>✓ LAB: Bacterial Morphology (Pg.77)</li> </ul>	Chapter 3
3	January 28 <sup>th</sup>	<ul style="list-style-type: none"> <li>- Prokaryotic Profiles: Bacteria &amp; Archea</li> <li>◇ WIKI: Infections of Skin &amp; Eyes (Ch18)</li> </ul>	Chapter 4
4	February 4 <sup>th</sup>	<ul style="list-style-type: none"> <li>- Eukaryotic Cells &amp; Microorganisms</li> <li>✓ LAB: Aseptic Technique &amp; Culturing (Pg.89)</li> </ul>	Chapter 5
5	February 11 <sup>th</sup>	<ul style="list-style-type: none"> <li>- An Introduction to Viruses</li> <li>◇ WIKI: Infections of Nervous System (Ch19)</li> <li><b>EXAM I (Ch3-6)</b></li> </ul>	Chapter 6
6	February 18 <sup>th</sup>	<ul style="list-style-type: none"> <li>- Microbial Nutrition, Ecology &amp; Growth</li> <li>✓ LAB: Isolation of Colonies (Pg.106)</li> </ul>	Chapter 7 (skip Ch8)
7	February 25 <sup>th</sup>	<ul style="list-style-type: none"> <li>- Microbial Genetics</li> <li>◇ WIKI: Cardiovascular &amp; Lymphatic Infection (Ch20)</li> </ul>	Chapter 9 (skip Ch10)
8	March 4 <sup>th</sup>	<ul style="list-style-type: none"> <li>- Physical &amp; Chemical Control of Microbes</li> <li>✓ LAB: Differential Staining (Pg.129)</li> <li><b>EXAM II (Ch7,9,11)</b></li> </ul>	Chapter 11
	March 11 <sup>th</sup>	SPRING BREAK	
9	March 18 <sup>th</sup>	<ul style="list-style-type: none"> <li>- Drugs, Microbes, Hosts - Elements of Chemotherapy</li> <li>◇ WIKI: Respiratory Infections (Ch21)</li> </ul>	Chapter 12
10	March 25 <sup>th</sup>	<ul style="list-style-type: none"> <li>- Microbe Human Interactions: Infection &amp; Disease</li> <li>✓ LAB: Methyl Red Voges-Proskauer Test (Pg.140)</li> </ul>	Chapter 13
11	April 1 <sup>st</sup>	<ul style="list-style-type: none"> <li>- Host Defenses I: Overview &amp; Non-specific</li> <li>◇ WIKI: GI infections (Ch22)</li> </ul>	Chapter 14
12	April 8 <sup>th</sup>	<ul style="list-style-type: none"> <li>- Host Defenses II: Specific Immunity &amp; Immunization</li> <li>✓ LAB: Motility Testing (Pg.152)</li> <li><b>EXAM III (Ch12-15)</b></li> </ul>	Chapter 15
14	April 15 <sup>th</sup>	<ul style="list-style-type: none"> <li>- Disorders in Immunity</li> <li>◇ WIKI: Genitourinary Infections (Ch23)</li> </ul>	Chapter 16
15	April 22 <sup>nd</sup>	<ul style="list-style-type: none"> <li>- Diagnosing Infections</li> <li>✓ LAB: Antibiotic Sensitivity (Pg.192)</li> <li>- <b>EXAM IV (Ch16, 17)</b></li> </ul>	Chapter 17
16	April 29 <sup>th</sup>	- <b>Final Project (presentation) Due</b>	

**III. No-show reporting and financial aid:** If you have not completed the First weeks assignment(s) in Canvas by Tuesday, January 22nd you will be reported as a no-show and dropped from the course. The resultant loss in credit hours may cause a reduction and/or cancellation of your financial aid award. Neither financial aid awards nor class reinstatement can occur after this point without significant documented extenuating circumstances. If you have questions or concerns about this please contact your campus financial aid specialist. ([www.coloradomtn.edu/web/departments/financial\\_aid](http://www.coloradomtn.edu/web/departments/financial_aid))

**IV. Student Learning Outcomes, Competencies, and Skills:**

1. Understand the terminology and principles of basic chemistry, cell structure and function, bio-energetics, cell reproduction and genetics, microbial taxonomy, and Darwinian evolution.
2. Understand microbial cell biology, and genetics.
3. Demonstrate technical laboratory skills, such as microscopy, aseptic techniques, culturing and isolation, and media and material preparation and sterilization.
4. Demonstrate cognitive laboratory skills, such as collection and analysis of data, identification of microbes, and communication of results.
5. Understand terminology and principles immunology, epidemiology, and virology.
6. Integrate themes by examining microbial evolution, diversity and disease.

**V. IDEA Objectives**

1. Gaining factual knowledge (terminology, classifications, methods, trends).
2. Learning fundamental principles, generalizations, or theories.
3. Learning to apply course material (to improve thinking, problem solving, and decisions).
4. Developing specific skills, competencies, and points of view needed by professionals in the field most closely related to this course.
5. Learning how to find and use resources for answering questions or solving problems.
6. Acquiring an interest in learning more by asking questions and seeking answers.

**VI. Evaluation Methods and Assessment Plan:**

**FORMATIVE ASSESSMENTS (aka ASSIGNMENTS & LABS):**

- LearnSmart Study Tool
- Chapter Assignments (to include Quizzes, Concept Maps, Case Studies or Animated Learning modules)
- WIKI Contribution (on Wikispaces)
- Lab Worksheets (submitted in Canvas)

These are "low stakes" tools, which are designed to lead you into success, by helping you learn the material, as well as providing you immediate feedback on your understanding of the material, so that you can adjust your study habits, or seek help before the "higher stakes" Tests (Summative Assessments).

**SUMMATIVE ASSESSMENTS (aka TESTS):**

There will be a total of four exams, each will be held online in Connect, at the conclusion of the respective module of material (as indicated on proposed schedule). You will also be working on a final project throughout the course, that you will turn in towards the close of the course, to be evaluated by your peers.

## POINT BREAKDOWN:

This point breakdown is subject to change.

Tests x 4	= 400 points
LearnSmart Assignments x 15	= 150 points
Chapter Assignments x 15	= 150 points
Lab Worksheets x 8	= 160 points
WIKI Contributions x 6	= 120 points
Final Project	= 100 points
<b>POINT TOTAL</b>	<b>=1080 points</b>

## GRADES:

**NO letter grades will be assigned to the individual exams, quizzes, assignments, discussions.** Your final grade will be based upon a total percentage of 1080 possible points. I will guarantee the following scale based on point totals: A to A- = 90-100%; B+ to B- = 80-89%; C+ to C- = 70-79%; D+ to D- = 60-69%; F = less than 60%.

Your lab score average is only about 15% of your total grade, but it is considered a vital part of the course. Consequently, **to receive a passing grade in the course, you MUST earn at least a C (75%) on the lab component of the course.** In other words, if you have a failing lab average, you cannot pass the course.

## NOTICE:

A student judged to have engaged in academic misconduct as defined in the "Academic Policies and Requirements" section of the Colorado Mountain College Student Handbook will, at a minimum, receive a "zero" for the work in question. The student may also be removed from the class, resulting in a failing grade. All student course material may be submitted to turnitin.com (or another anti-plagiarism program) at the instructor's discretion. "Academic Expectations," the "Student Code of Conduct and Judicial Process" and more information about academic misconduct can be found in the Student Handbook, online version at: [www.coloradomtn.edu/File/student\\_handbook.pdf](http://www.coloradomtn.edu/File/student_handbook.pdf).

Students are responsible for course materials from assigned text(s) and reading, lectures, labs, and other assignments as required.

The instructor may alter any, or all, of this syllabus during the semester as the learning environment requires. Students will be notified in writing of changes.

If you have a disability protected by the Americans with Disabilities Act (ADA) and Section 504 of the Rehabilitation Act and feel you may need classroom accommodations based on the impact of your disability, please contact the Disability Services Coordinator on your campus.

- Edwards and Steamboat Springs: Deb Farmer at 970-870-4450
- Aspen, Carbondale, Glenwood Springs (including Spring Valley), and Rifle: Dr. Anne Moll at 970-947-8256
- Breckenridge, Dillon, Leadville, and Chaffee County: Sandi Conner at 719-486-4200

Students wishing to withdraw from this course must INITIATE the course withdrawal/drop process at the site Registration Office.

This class could be cancelled one week prior to the census date if a sufficient number of students are not enrolled by that date.

## **VII. Grading System & Options**

Information about grading is available in the Colorado Mountain College catalog. You will receive a grade report for current semester courses at the end of each term. This grade report is mailed to your permanent mailing address. Reports are mailed approximately two weeks after the end of the academic term.

## **VIII. Required Course Materials**

### **Text:**

Microbiology 3e (w/ Connect Plus Access Card); Cowan; McGraw Hill

ISBN: 9780077471941

- You may choose to use the digital version of the text instead. It is included with Connect Plus access (~\$95), and you can access it from within Canvas as soon as the course is launched.
- Also, if you have an older, or used version of the text, which did not come with Connect access, you may purchase access (~\$40) from within Canvas as soon as the course is launched.

### **Lab Kit: *MUST be ordered before the start of the course***

- MBK Microbiology LabPak (~\$300) - order directly from LabPak.
- Access to a 600x Microscope & an Oil Immersion Lens (**NOT INCLUDED in the labpak**) is required, may be purchased for ~\$200 (Microscopes are NOT available for loan from your local campus. Please **DO NOT** call your local campus to inquire about borrowing one).

Order your LabPak and Microscope online at [www.holscience.com](http://www.holscience.com) . Click on the "Order Here" tab. The login is "C000061", and our password is "labpak"

LabPaks are shipped from Denver, CO within one business day and delivered to most US locations within 5 business days. *Please verify your contents list with the materials in the LabPak as soon as it is received.* If you have any questions or issues with your LabPak, call customer service at 866-206-0773 M-F between 9am CST and 4pm CST.

### **Other Essentials:**

You will need to have a computer, regular access to High-speed Internet and access to a digital camera (the one on your phone is fine). You will also need the most recent version of quicktime (or iTunes), adobe reader, flash, and shockwave installed on your computer, you can download these FREE products here: <http://www.adobe.com/downloads/>

### **Ordering Books**

Colorado Mountain College has chosen to partner with Follett Virtual Bookstores to operate textbook services. You will find the official textbook list at [www.coloradomtn.bkstr.com](http://www.coloradomtn.bkstr.com). If you ever have any online bookstore questions, you can email [coloradomtn@fvb.follett.com](mailto:coloradomtn@fvb.follett.com) or call 800-621-4088.

Students can sell back books anytime online or in-person at Follett's CMC buyback events. Sign up for the online store's email list at [www.coloradomtn.bkstr.com/email](http://www.coloradomtn.bkstr.com/email) for more information on future buyback dates/times and to receive other important messages from Follett.

#### Ordering Textbooks with Financial Aid:

Students wishing to use their Financial Aid to purchase their textbooks from the Colorado Mountain College Online Bookstore (Follett) may be set up with a

*CMC Flex Pay account*. Contact your local CMC Accounts Manager for instructions and your specific username and password information. If you are not close to a CMC site contact CMC Online Learning at 970-947-8341 or [virtual@coloradomtn.edu](mailto:virtual@coloradomtn.edu).

#### A Few Words About Microsoft Word

Microsoft Word is the standard word processing program for the majority of CMC instructors.

Students without Microsoft Word may use Google Docs, or the free software from

[www.OpenOffice.org](http://www.OpenOffice.org) to create Word-compatible documents. The program also includes spreadsheet, presentation, drawing, and database applications. The program is available for Windows, Macintosh, or Linux operating systems. Microsoft Word is installed on computers available in computer labs at CMC locations.

### IX. Other Information:

The Official means of communication for this course will be through the CANVAS communications center, or CMC email). If a class is cancelled, changed, or moved, you will be notified by email, so check your mail before class, incase of any last minute changes!

You will need to check in regularly to the CANVAS website for this course. This is where you will find lecture notes, vodcast lectures for the class, and any other printed material or assignments you may need to pick up.

#### CANVAS

Canvas is the online course management system (CMS) used by Colorado Mountain College. You access CANVAS via your web browser, i.e.: Chrome, Safari, Mozilla/Firefox, Internet Explorer etc.

Students, faculty and staff members use the CANVAS site to access course announcements, documents, research links and library resources, to receive and deliver completed assignments, take tests, and to communicate with each other via email, discussion boards and chat.

For instructions on How to Access your Canvas Account, Canvas How To's, and who to contact for all your Canvas questions and support needs, please visit:

[www.coloradomtn.edu/web/departments/faq-for-students](http://www.coloradomtn.edu/web/departments/faq-for-students).

#### Student Email

All CMC students enrolled in a credit-based class (0.5 hour credit class or more) will be assigned a CMC student email address through Google mail (Gmail). Please allow at least 48 hours after you register for this account to be activated. For more information on your CMC student email account, please visit the Student page of the MyCMC Portal: [mycmc.coloradomtn.edu](http://mycmc.coloradomtn.edu).

## **IX. Virtual Library Information**

<http://library.coloradomtn.edu/content.php?pid=349163&sid=2891178>

The Virtual Library has its doors open 24/7, providing access to thousands of online journals and newspapers, books and art images, downloadable videos and audio books, career resources and practice tests.

If you need help with the Virtual Library, email [reference@coloradomtn.edu](mailto:reference@coloradomtn.edu) or call us at 800-621-8559, extension 2926.

### **Colorado Mountain College Online Learning**

Information is available at: [http://www.coloradomtn.edu/online\\_learning/](http://www.coloradomtn.edu/online_learning/).