**Valencia College**

**Course MCB2010C CRN 30218 Microbiology 4 credit hours**

**Course Syllabus**

**Summer 2017**

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| **INSTRUCTOR** | **DR. LOIS CRICHLOW**  **Office: AHS-323** |
| **PHONE** | **407 582 1204 (Office) 407 582 1215 (Fax)** |
| **E-MAIL** | **lcrichlow@valenciacollege.edu** |
| **OFFICE HOURS** | **M W: 9 – 10 am and 1:45 – 2:45 pm; T R 11:45 am – 12:45 pm**  **F: 8am – 12 noon (Blackboard/email)** |
| **CLASS MEETING TIMES AND LOCATION** | **M: 10 am – 1:40 pm (Lecture) AHS 213**  **W: 10 am – 1:40 pm (Lab) AHS 320** |
| **COURSE DESCRIPTION** | This lecture/lab course is designed for Health Sciences majors. Survey of microbial forms with emphasis on bacteria and viruses: morphology, physiology, genetic mechanisms and control of microorganisms. Pathogenic processes and microbes discussed in detail. |
| **COURSE LEARNING OUTCOMES** | Students will be able to identify the major milestones in microbiology.  Students will be able to describe how macromolecules contribute to the functions necessary for microbial life.  Students will be able to classify microorganisms according to a common taxonomic hierarchy  Students will be able to differentiate between prokaryotic and eukaryotic organisms and explain the function of each structure in both cell types.  Students will gain an understanding of viruses by explaining viral structure, multiplication, spread and control.  Students will be able to explain basic microbial metabolism and summarize what is needed for the growth of microorganisms.  Students will be able to describe all the chemical and physical means available to control microbes and to identify those that provide sterility.  Students will be able to identify the mechanism of action of commonly used antimicrobial drugs and the concerns associated with the development of drug resistant strains.  Students will model their knowledge of molecular genetics and recognize the importance of basic genetic engineering.  Students will be able to demonstrate the appropriate use of epidemiological terminology in context of public health.  Students will be able to identify the mechanisms of pathogenicity and distinguish the different levels of immunity operating in the human body.  Students will be able to identify the causes of major human infectious disease and relate that information to the appropriate organ system.  Students will demonstrate a working knowledge of aseptic technique  Students will demonstrate an understanding of microscopy.  Students will integrate their lab knowledge to identify unknown microbes and determine how appropriate antimicrobial drugs are chosen for given bacterial infections. |
| **VALENCIA STUDENT CORE COMPETENCIES** | 1. **Think**: clearly, critically and creatively, analyze, synthesize, integrate and evaluate **(lectures and examinations).** 2. **Value:** make reasoned value judgment and responsible commitments **(laboratory classes).** 3. **Communicate:** with different audiences and using varied means **(group work, written assignments and lab reports).** 4. **Act:** purposefully, reflectively and responsibly **(laboratory classes).** |

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| **TEXT** | Microbiology: A Systems Approach. Marjorie Kelly Cowan. 4th Edition. McGraw-Hill. |

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| **LABORATORY MANUAL** | Microbiology: A Lab manual: Cappuccino and Welsh. 11th edition.  **Lab coat, disposable gloves and permanent ink marking pen (*Sharpie*).** |

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| **ATTENDANCE** | The college believes that regular attendance and class participation are significant factors, which promote success in college. Students are expected to attend all classes in which they are enrolled (Policy 6Hx28:10-22). Each instructor determines the specific attendance policy for his/her class, **but attendance must be recorded for each student.**  Students in MCB2010C (Microbiology) are expected to attend classes **regularly and on time. Students that are habitually late will be dropped from the class. Quizzes and tests cannot be made up nor can Labs be re-scheduled.\*** |
| **WITHDRAWAL** | **The deadline for withdrawal (W grade) from this course is July 7.** “A student who withdraws from class before the withdrawal deadlinewill receive a grade of “W.” A faculty member is permitted to withdraw a student from the faculty member's class up to the beginning of the final exam period, for violation of the faculty member's attendance policy, as published in the faculty member's syllabus. A student is not permitted to withdraw from this class ***after*** the withdrawal deadline; if you remain in the class after the withdrawal deadline, you can only receive a grade of A, B, C, D, F or I. An I grade will only be assigned under extraordinary circumstances that occur near the end of the semester. If you receive an I, the work missed must be made up during the following semester, at which time you will get an A, B,C,D or F. Failure to make up the work during the following semester will result in you getting a grade of F in the course. Any student who withdraws from this class during a third or subsequent attempt in this course will be assigned a grade of “F.” (Valencia Policy 4-07 (Academic Progress, Course Attendance and Grades, and Withdrawals). **In this class a student missing 4 lectures or 2 labs will be withdrawn from the class.**  Before withdrawing from the class you are advised to consult the professor and an advisor or counselor. **The drop/refund deadline is May 15.** |
| **METHOD OF COURSE**  **EVALUATION** | **Chapter exams** (minimum 12, including final): **50%**  **Lab reports, lab quizzes and lab practicals**: **30%**  **Home work: 20%**  **NOTE:**  **Exams**: The format of exams may vary.  You will be given good notice of the dates/times of exams. You will be given good notice of the dates/times of exams. Tests cannot be made up but the lowest test grade will be dropped. Grades will be posted on Blackboard and you are advised to regularly check your progress.  **Lab reports**: These are to be turned by the deadline requested. No lab grades will be dropped. **Late lab reports or those that have been copied will not be graded. Students are advised to take the lab work very seriously.\***  **Homework:** To be turned in by the deadline requested. No homework grade will be dropped. |
| **ACADEMIC DISHONESTY** | **ANY WORK OBTAINED/PRODUCED BY DISHONEST MEANS (*INCLUDING COPIED LAB REPORTS*) WILL NOT BE GRADED.** |
| **GRADING SCALE:** | A: 90-100 C: 70-79 F: 0-59  B: 80-89 D: 60-69 |
| **EXTRA CREDIT** | Extra credit projects and/or activities are not part of this course. |
| **STUDENTS WITH DISABILITIES** | Students with disabilities who qualify for academic accommodations must provide a letter from the Office for Student with Disabilities (OSD) and discuss specific needs with the professor, preferably during the first two weeks of class. The Office for Students with Disabilities determines accommodations based on appropriate documentation of disabilities **(SSB 102. Phone 407 582 1523. West Campus).** |
| **ELECTRONICS** | Tape recorders are allowed. Laptop computers may be used in class for note-taking purposes only. **Cell phones on silent during class. Students must refrain from text messaging during class. Cell phones must be out of sight for the duration of an exam.** |
| **STUDENT SECURITY** | We want to reassure you that our security officers are here around the  clock to ensure the safety and security of the campus community. It’s  important to remain alert and aware of your surroundings, especially  during the early morning or evening hours. Remember that you can always  call security for an escort if you feel uncomfortable walking alone on  campus. White security phones can also be found in many of our  buildings; simply pick up the phone and security will answer.  Finally, report any suspicious persons to **West Campus Security at 407**  **582-1000, 407-582-1030** (after-hours number) or by using the yellow  emergency call boxes located on light poles in the parking lots and along  walkways. |
| **STUDENT SUPPORT** | **Baycare Behavioral Health’s Student Assistance Program:**  Valencia is committed to making sure all our students have a rewarding and successful college experience. To that purpose, Valencia students can get immediate help that may assist them with psychological issues dealing with stress, anxiety, depression, adjustment difficulties, substance abuse, time management as well as relationship problems dealing with school, home or work. Students have 24 hour unlimited access to the **Baycare Behavioral Health’s confidential student assistance program** phone counseling services by calling **(800) 878-5470**. Three free confidential face-to-face counseling sessions are also available to students.”  **Tutoring Center: Bldg 7: 240 (Phone: 407 582 1633)**  **Testing Center: Bldg 11: 142 (Phone 407 582 5369)** |
| **ACADEMIC SUPPORT** | I am always available in my office during office hours and students are encouraged to take advantage of these opportunities.  **Tutoring Center: Bldg 7: 240 (Phone: 407 582 1633)**  **Online Tutoring via Atlas. Go to Courses to find online tutoring.**  **Testing Center: Bldg 11: 142 (Phone 407 582 5369** |
| **DISCLAIMER** | **Changes in the syllabus and/or schedule may be made at any time during the term at the discretion of the professor. Students will be notified of any changes in class and by email. Your continued participation in this class after the drop-add deadline period (May 15) constitutes an agreement with and an acceptance of the conditions presented in this syllabus.** |

**\*NOTE ON LABORATORY CLASSES:**

The laboratory classes are an extremely important part of the course. They are designed to develop your ability to think clearly and critically and to improve your analytical skills. Hence they must be taken seriously. In order to efficiently perform the lab exercises you should read the procedures of the scheduled labs **BEFORE** you attend the lab so that you will be able to **UNDERSTAND** fully the experiments you are to carry out and to perform them **INTELLIGENTLY**.

**LAB REPORTS**

Although students are sometimes required to work in groups, turning in lab reports in an ***individual exercise***. Hence work that is copied will not be graded. ***Students who habitually miss labs will be dropped from the course.***

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**Lecture and Laboratory Schedule: Summer 2017**

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| **WEEK OF** | **LECTURE** | **LABORATORY** |
| May 8 | Chapter 1: The Main Themes of Microbiology | Lab 1: p 31-39 |
| May 15 | Chapter 13: Microbe-Human Interactions | Lab 2: p 1-30  Epidemic simulation |
| May 22 | Chapter 2: The Chemistry of Biology Chapter 4: Prokaryotic Profiles | Lab 3: p 47-66 |
| May 29 | Chapter 7: Microbial Nutrition, Ecology and Growth | Lab 4: p 67-89 |
| June 5 | Chapter 8: Microbial Metabolism: The Crossroads of Life | Lab 5: p 91-108 ***and***  **Lab practical I** |
| June 12 | Chapter 11: Physical and Chemical Control of Microbes | Lab 6: p 109-124 |
| June 19 | Chapter 12: Drugs, Microbes, Host – The Elements of Chemotherapy | Lab 7: p 289-298 and 305-313 |
| June 26 | Chapter 9: Microbial Genetics | Lab 8: p 149-182 |
| July 3 | Chapter 6: An Introduction to Viruses | Lab 9: p 183-210  Bacterial transformation |
| July 10 | Chapter 5: Eukaryotic cells and Microorganisms | Lab 10: p 211-215 (Set up unknowns)  p 423-434 |
| July 17 | Chapter 14: Host Defenses 1: Overview and Nonspecific Defenses | Lab 11: Determination of unknowns (**Lab practical II)**  BBL Enterotube II |
| July 24 | Chapter 15: Host Defenses 11: Specific Immunity and Immunization | Lab 12: Results of lab 11. |
| **July 31** | **Final Exam Monday July 31. Grades viewable in Atlas on August 4.** | |

Classes do not meet on the following dates: **May 29 and July 4.**

Term ends **August 1.**

**NOTE: Changes may be made to this schedule at any time at the discretion of the professor.**