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**Biomedical Research**

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**Conference Period:** 1st Period (9:20 A.M. – 10:15 A.M.) **Tutoring Opportunities:** By appointment. Student needs to arrange a time to meet with me.

**Class Materials:**

* Journal or notebook
* Black or blue pens
* Canvas (on laptop)
* Medical microbiology textbooks will remain in classroom. All necessary biotechnology textbook chapters will be available on Canvas.
* If a student is in need of a device outside of school hours, they may be checked out on their home campus.

Access to Canvas and Office365 tools is available to students through our [Single Sign-on Portal (SSO)](https://sso.ems-isd.net/_auth/Login.aspx?ru=====). Students receive their SSO login during enrollment.

**Course Description:**Students will apply advanced academic knowledge and skill to the emerging fields within biomedical research such as agricultural, medical, regulatory, and forensics. Students will conduct laboratory investigations, use scientific methods during investigations, and make informed decisions using critical thinking and scientific problem solving. Students will study a variety of topics including functions of cells, nucleic acids, proteins, and genetics while exploring the microbial world. Students will also study pathogenic and non-pathogenic microorganisms, drug resistant microorganisms, and emerging diseases. Students receive one credit of medical microbiology and one credit of Biotechnology I. This course may fulfill two science credits. [EMS ISD Counseling Website](https://www.emsisd.com/Page/542).

**Course Goals:**Students who complete this course successfully will be able to:

* Objectively conduct scientific research studies through laboratory experiments.
* Identify different microbial pathogens’ effect on the human body.
* Safely and effectively use lab equipment to conduct research.

**Student Evaluation:**The grading system for this course is as follows:

* Grade averaged 60% Major 40% Minor
* Major grades – tests (including District Common Assessments, projects, final essays, research papers, presentations); minimum three per six weeks
* Minor grades – quizzes, daily assignments, journals; minimum four per six weeks
* Each six weeks will count as 1/3 of the semester grade.
* A letter system (S, N, U) is used to report a student’s conduct based on proper/responsive conduct and citizenship
* Per Board Policy EIA (LOCAL), “The District shall permit a student who meets the criteria detailed in the grading guidelines a reasonable opportunity to redo an assignment or retake a test for which the student received a **failing** grade. This policy applies only to initial identified major grades and does not apply to daily assignments and quizzes. Upon reteach and retest, the new test, project, etc. recorded will be a high score of 70%.
* Official grades will be in Skyward only and can be accessed by student and parent through Family Access.

**Assignments, exams, expectations outside of the classroom:**In this class we do not have any required activities outside of the classroom environment. However, work that is not finished with in the allotted class period may need to be completed on your own time. If absent, students should check Canvas for any assignments they need to complete before returning.

**Attendance/Tardy Policy/Make-Up Work:**Students will be allowed one day for each day absent to complete make-up work. Students will be entirely responsible for getting all work missed and completing it on time. **Any work due on the day you were absent will be due the day you return**. Due to the nature of a lab setting, there will be not makeups. **Any missed quizzes will be taken the day you return**. If you miss an exam, then you will take the exam the day you return.

* 1 school day late – maximum score is 85
* 2 school days late – maximum score is 70
* 3 school days late – maximum score of 60
* No late work accepted after 3 school business days and a zero is recorded in the grade book.

**Classroom Expectations:**1. Arrive on time to class.

2. Come to class prepared with supplies and work complete.

3. Fully participate in class work.

4. Handle all classroom equipment (supplies, technology, and facilities) with respect.

5. Treat all students and staff at HCTC with kindness.

**Preliminary Schedule of Topics, Readings, and Assignments**

Meeting Employer Expectations in Health Science, Laboratory and Field Investigation in Health Science, The Use of Scientific Theory in Health Science, Critical Thinking Skills in Health Science, Microorganisms and Health and Wellness, Microbiological Laboratory Skills, Microorganisms and Infectious Disease, Exploration of the Emerging STEM Field of Biotechnology, Biotechnology Basics, Safety Precautions and Regulations in Biotechnology, Scientific Reasoning in Biotechnology, Comparing Biotechnology Laboratory Procedures and Applications in Each Sector, Genetics in Biotechnology, The Importance of Recombinant DNA Technology and Genetic Engineering, Biotechnology Laboratory Procedures, Biotechnology Laboratory Solutions and Reagents, Advanced Biotechnology Laboratory, Quality Control Analysis in Biotechnology Laboratory.

**Academic Integrity: Update from GRH**Academic integrity values the work of individuals regardless if it is another student’s work, a researcher, or author. The pursuit of learning requires each student to be responsible for his or her academic work. Academic dishonesty is not tolerated in our schools. Academic dishonesty, includes cheating, copying the work of another student, plagiarism, and unauthorized communication between students during an examination. The determination that a student has engaged in academic dishonesty shall be based on the judgment of the classroom teacher or other supervising professional employee and considers written materials, observation, or information from students. Students found to have engaged in academic dishonesty shall be subject to disciplinary and/or academic penalties. The teacher and campus administrator shall jointly determine such action.