BIOMEDICAL INNOVATION
Course Syllabus

Course Number: SCMA-0005
OHLAP Credit: No
OCAS Code: 8719
Course Length: 120 Hours
Career Cluster: Science, Technology, Engineering & Mathematics
Career Pathway: Science & Mathematics
Career Major(s): PLTW Biomedical Science and Medicine

Pre-requisite(s):

Course Description: This capstone course gives student teams the opportunity to work with a mentor, identify a science research topic, conduct research, write a scientific paper, and defend team conclusions and recommendations to a panel of outside reviewers. Each team will have one or more mentors from the scientific and/or medical community guiding their scientific research. This course may be combined with the capstone course from the pre-engineering pathway, allowing students from both pathways to work together to engineer a product that could impact healthcare.

Textbooks: Project Lead the Way Curriculum.

Course Objectives: A. Student will complete capstone course according to the individual project decided upon by student and instructor. PLTW guidelines are summarized below:

- Students will apply their knowledge and skills to answer questions or solve problems related to the biomedical sciences. Students design innovative solutions for the health challenges of the 21st century as they work through progressively challenging open-ended problems, addressing topics such as clinical medicine, physiology, biomedical engineering, and public health. They have the opportunity to work on an independent project and may work with a mentor or advisor from a university, hospital, physician's office, or industry. Throughout the course, students are expected to present their work to an adult audience that may include representatives from the local business and healthcare community.*

*PLTW Description

Teaching Methods: The class will primarily be taught by the lecture and demonstration method and supported by various media materials to address various learning styles. There will be question and answer sessions over material covered in lecture and media presentations. Supervised lab time is provided for students to complete required projects.
Grading Procedures:

1. Students are graded on theory and lab practice and performance.
2. Each course must be passed with seventy (70%) percent or better. Grading scale: A=90-100%, B=80-89%, C=70-79%, D=60-69%, F=50-59%.

Description of Classroom, Laboratories, and Equipment:

Tulsa Technology Center campuses are owned and operated by Tulsa Technology Center School District No. 18. All programs provide students the opportunity to work with professionally certified instructors in modern, well-equipped facilities.

Available Certifications/College Credit:

The student may be eligible to take state, national or industry exam after completion of the program. College credit may be issued from Oklahoma State University-Okmulgee or Tulsa Community College. See program counselor for additional information.

College Credit Eligibility:

The student must maintain a grade point average of 2.0 or better. The following career major(s) may require a 3.0 GPA or better due to the Articulation Agreements and/or accreditation/certification requirements: Certified Dental Assistant, Emergency Medical Technician (EMT), Licensed Practical Nurse (LPN), Surgical First Assistant (SFA), Surgical Technologist, Surgical Nurse Assistant, Central Sterile Processing Technician.