



Lake Worth Middle School

Biomedical Sciences Academy

Accelerated High School Honors Program

Course Listing



The goal of the Healthcare Careers Outreach Program (HCOP), with the Charles E. Schmidt College of Medicine at Florida Atlantic University, is to foster student interest in Medicine and prepare students to be college and medical school ready. Participating students will be mentored by FAU College of Medicine students during activities held on FAU campus and within the classroom. Activities include field trips to the FAU Simulation Center, Anatomy Lab, dissections, college roadshow workshops and research experiences. Parent or guardian participation is expected. The FAU HCOP program supports underrepresented and under-served minorities in South Florida on their path towards Medicine. The three year Accelerated Biomedical Sciences High School Program is the direct pipeline to medical school. Clinical rotations are conducted at area hospitals and other healthcare and research facilities. Biomedical Sciences students successfully completing the 4 accelerated high school honors courses in middle school, receive 4 high school credits and a program completion certificate in Biomedical Sciences. In addition, students sit for industry certification exams in healthcare and may receive articulated college credits at several post-secondary institutions. This pathway allows students to enroll in Dual Enrollment courses and/or take AICE and AP courses, receive as many college credits during high school and apply to the 6-7 year B.S./M.D. or B.A./M.D. programs at several medical schools throughout the United States upon high school graduation.

87081108 - Principles of Biomedical Sciences Honors (6th Grade) - High School Credit

This full-year course introduces the students to health occupations and career options available in healthcare. Students investigate the human body systems and various health conditions. This course is designed to provide an overview of all the courses in the Biomedical Sciences program and lay the scientific foundation for subsequent courses. Students are introduced to human physiology, medicine, research processes and bioinformatics. Key biological concepts including homeostasis, metabolism, inheritance of traits, and defense against disease are embedded in the curriculum. Engineering principles including the design process, feedback loops, and the relationship of structure to function are also incorporated. Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental quality, and safety procedures will be an integral part of this course. Students will interact with materials and primary sources of data or with secondary sources of data to observe and understand the natural world. Students will develop an understanding of measurement error, and develop the skills to aggregate, interpret, and present the data and resulting conclusions. Students will be required to create a terminology handbook as a major project for the year and participate in activities with the medical schools.

87081208 - Human Body Systems Honors (6th Grade) - High School Credit

In this full year course, students examine the interactions of body systems as they explore identity, communication, power, movement, protection, and homeostasis. Students design experiments, investigate the structures and functions of the human body, and use data acquisition software to monitor body functions such as muscle movement, reflex and voluntary action, and respiration. Exploring science in action, students build organs and tissues on a skeletal manikin, work through interesting real world cases and often play the role of biomedical professionals to solve medical mysteries. Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental quality, and safety procedures will be an integral part of this course. Students will interact with materials and primary sources of data or with secondary sources of data to observe and understand the natural world. Students will develop an understanding of measurement error, and develop the skills to aggregate, interpret, and present the data and resulting conclusions. A vertebrate dissection is a required component of this course. In addition, this course has an intensive online component. Students are required to participate in activities with the nursing schools and medical schools and complete 25 hours in the clinical setting (clinical rotation).

87081308 - Medical Interventions Honors (7th Grade) - High School Credit

In this full year course, students investigate the variety of interventions involved in the prevention, diagnosis and treatment of disease as they follow the lives of a fictitious family. The course is a "How-To" manual for maintaining overall health and homeostasis in the body as students explore: how to prevent and fight infection; how to screen and evaluate the code in human DNA; how to prevent, diagnose and treat cancer; and how to prevail when the organs of the body begin to fail. Through these scenarios, students are exposed to the wide range of interventions related to immunology, surgery, genetics, pharmacology, medical devices, and diagnostics. Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental quality, and safety procedures will be an integral part of this course. Students will interact with materials and primary sources of data or with secondary sources of data to observe and understand the natural world. Students will develop an understanding of measurement error, and develop the skills to aggregate, interpret, and present the data and resulting conclusions. Students will be required to complete several projects throughout the year. Students are required to participate in activities with the nursing schools and medical schools and complete 25 hours in the clinical setting (clinical rotation).

87081408 - Biomedical Innovation Honors (8th Grade) - High School Credit

In this full year capstone course, students 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. This program uses a combination of activity-based, project-based and problem-based (APPB) learning styles to engage students. Skills representative of medical careers will be explored through hands-on activities, advanced laboratory investigations including dissections, the use of scientific techniques, medical equipment and computer software. The skills include taking vital signs, emergency first aid, using aseptic equipment, cardio-pulmonary resuscitation, and medical office skills. Students will participate in field trips to observe medical facilities and procedures, to observe demonstrations of the most recent advances in the fields of medical and computer technology, and to interview guest speakers associated with various medical careers. Students will be required to complete several projects throughout the year and become certified in first aid and CPR. Students are required to participate in activities with the nursing schools and medical schools and complete 25 hours in the clinical setting (clinical rotation).