

Medical/Sciences Pathway (13 credits)

12th Grade

BIO 104 Introduction to Human Biology – 4 credits

Introductory human anatomy and physiology with a focus on exercise physiology and human health. Intended for non-science majors. Lecture and laboratory. This course fulfills the Natural Science & Laboratory General Education requirement at UM-Flint.

PHL 168 Philosophy of Bioethics – 3 credits

Introduction to classical ethical theories and their application to contemporary bioethical issues, such as neuroethics, ethics of nanotechnology, stem-cell research, bioterrorism, and cloning as well as a broad range of health care issues such as health system reform, international health research, social inequalities in health, and the allocation of scarce resources. This course fulfills the Humanities General Education requirement at UM-Flint.

HCR 206 Health Science Applications – 2 credits

Introduction to a wide range of topics in health science with demonstrations of how basic scientific concepts can be applied to solving problems in the field. Hypothetical thought experiments stimulate students' interest in pursuing health careers.

BIO 307 Topics in Human Anatomy – 4 credits

In-depth study of one or more areas of regional anatomy. Course content, format and prerequisites vary with the topic presented. Involves hands-on lab activities and/or distance-learning presentations for study of cadaver anatomy. Lecture and laboratory.



Pre-Engineering Pathway (13 credits)

12th Grade

CSC 101 Fluency with Information Technology and Computing – 3 credits

Development of fluency in Information Technology (IT) for productive use, designed to complement the student's areas of study. The relevance of IT and computing in daily life, emphasized through collaborative learning about such topics as image representations, high definition video transmission, digital voice encoding, MP3 files, identity protection for online shopping, data security in social networks, robotics, games and animation creation, virtual worlds. Introduction to programming using non-traditional, intuitive programming environments such as smartphones and LEGO Mindstorms. This course fulfills the Technology (T) General Education requirement at UM-Flint.

EGR 165 Computer Aided Design – 3 credits

The goal of this course is to familiarize engineering students with fundamental principles of computer aided design and perform basic engineering analysis, such as stress and deflection using solid modeling and parametric design using Creo software. This course fulfills the Technology (T) General Education requirement at UM-Flint.

CSC 175 Problem Solving and Programming I – 4 credits

This course introduces students to the structured programming language C++ which is essential for engineering applications and problem solving. Programming language concepts, arrays, structures, and subprograms will be included. This course fulfills the Technology (T) General Education requirement at UM-Flint.

EGR 102 Introduction to Engineering – 3 credits

This course introduces students to various engineering disciplines, and common engineering science foundations of all branches, teaming ethics, and communication. Fundamental principles of various engineering disciplines will be taught using one central problem from each discipline. This course fulfills the Technology (T) General Education requirement at UM-Flint.