TRINITY MEDICAL SCIENCES UNIVERSITY | SCHOOL OF BIOMEDICAL SCIENCES

MEDICAL INFORMATICS

BIOS 150

Course Description

This course provides a combination of computer science, systems, and communications to address computer literacy needed to effectively collect, manipulate, collaborate and publish health science information.

Credit: 2 credits **Repeatable: No**

Course Structure

Lectures with Power points, Hands on Labs, Self-directed Learning, Team-based learning etc.

Competencies

This course emphasizes competencies to enhance skills essential for a future health care professional.

- Knowledge
  - **Demonstrate content knowledge and skills in foundational courses required by biomedical professionals**
  - **Demonstrate information literacy**
  - **Demonstrate quantitative reasoning**
  - **Demonstrate longitudinal learning through coursework**
- Critical Thinking
  - Develop the skills of self-reflection and peer assessment to improve personal performance**.**
  - **Demonstrate the ability to analyze literature and written material**
  - **Demonstrate the ability to distinguish between well-reasoned and poorly reasoned arguments**
- Communication Skills
  - **Demonstrate effective presentation skills to faculty and peers.**
  - **Demonstrate effective listening skills**
  - **Demonstrate effective written communication**

Objectives:

Upon completion of BIOS 150 course, the student should be able to describe:

- The basic components, aspects and operations of computer systems in general.
- How the data is stored, processed, transmitted and handled by computer systems.
- The appropriate methods of data processing for biomedical study.
- The modern trends in technology and changes it applies to biomedical study.

Schedule: Dates and times to be posted at the beginning of the term on the online calendar.

Course Topics / Outline

Activity #	Lecture Topics
Week1	Introduction to Computer Science
Week 2	Computer System Structure, Computer Applications
Week 3	Structure of Computer Applications
Week 4	Binary, Decimal & Hex numbering systems
Week 5	Data Types
Week 6	Communication Technologies
Week 7	**Mid-Term Examination**
Week 8	Web Technologies
Week 9	Information Security
Week 10	Data collection and analysis methods
Week 11	Information Presentation Skills & Methods
Week 12	Electronic Medical Records Systems
Week 13	Latest Trends in Information Technology in Healthcare
Week 14	**Final Examination**

Assignments:

A comprehensive group project will be assigned where groups of students have to demonstrate competency and skills acquired by the course through a relevant topic of choice. This will be assigned during the term.

Textbooks and Reference Materials:

June Jamrich Parsons, Dan Oja, Patrick Carey, Carol DesJardins. New Perspectives Microsoft Office 365 & Excel 2016. 1st Edition. Publisher: Cengage Learning.

Evaluation: Students are evaluated by Lab work, projects, a midterm exam, a final exam and their attendance.

Points:

	Percent (%)
Labs / attendance	20
Projects	20
Mid Term	30
Final exam	30
Total	100

Grade:

Percent of Points	Letter Grade
95-100%	A(h)
90-94%	A
85-89%	B+
80-84%	B
75-79%	C+
70-74%	C
<70%	F

Attendance:

Students are expected to attend at least 80% of all scheduled learning activities. Attendance in the class will be recorded during lab sessions. Please note that absences due to illness or misadventure will be factored into the 20% of allowable absences if informed respective faculty or the Dean of students.

Policies:

Professional Demeanor

The student should be thoughtful and professional when interacting with faculty and other students. Inappropriate behavior includes the use of offensive language, gestures, or remarks with sexual overtones. Students should maintain a neat and clean appearance, and dress in attire that is generally accepted as professional.

Honesty

Students are expected to demonstrate honesty and integrity in all aspects of their education and in their interactions with faculty, administration, physicians, patients, and fellow students. They will not cheat, plagiarize, or assist others in the commission of these acts.

Faculty and Office Hours:

Mr. Srinath Weerasena, Course Instructor and Director of Information Technology

Student can schedule an appointment by email or by direct contact.