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Faculty of Engineering
The Graduate School of Biomedical Engineering

Term 3, 2022

**BIOM9450 (Medical & Health Informatics)** 

### **COURSE DETAILS**

Units of Credit 6

Contact hours 3 hours per week

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#### **INFORMATION ABOUT THE COURSE**

Background

Medical Informatics

as it applies to health

communications applications in medical care). This is an introductory subject. However, in order to cover the material necessary to give you adequate practical database programming and web publishing skills, you will be required to devote significant amounts of time to reading lecture and reference materials, and in performing the prescribed programming tasks.

Accompanying the lecture program is a substantial set of tutorial and laboratory tasks. We will be teaching the **practic** D O F R P S R Q H Q W L Q W K H  $\mu^*$  U H H Q 5 R R P ¶ **on the fifth floor of the Samuels building (depending on the COVID-19 situation)**. However, at this stage it is highly unlikely that we will be able to return to face-to-face laboratories and this the classes will run in an on-line mode. Outside of formal class times, it will be possible to access this room for work on tutorials and the major project. There are GSBmE guidelines on computer use that need to be followed. By the end of week 1, accounts will have been set up for you on our Windows file server.

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By the end of week 1, accounts will have been set up for you on our Windows file server. Also a private directory for you to safely store your work will be allocated on the server. The laboratories will be accessible using a swipe card system based on your student card. This access will also be arranged during the first two weeks of semester.

BIOM9450 is a 6 UOC course and it is expected that you will devote a minimum of 8 hours

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body of knowledge and a set of techniques concerning the organizational management of information in support of medical research, education, and patient care. Medical informatics combines medical science with several technologies and disciplines in the information and computer sciences and provides methodologies by which these can contribute to better use of the medical knowledge base and ultimately to better medical care.

#### **TEACHING STRATEGIES**

This course consists of integrated lecture and practical work. Problem solving is an essential component of this subject. A Moodle courseware module has been established for this course. Upcoming tutorial tasks, discussion groups and lecture notes and resource materials

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#### **ASSESSMENT**

There will be hand-in tutorial questions, end of semester quiz+computer exam and a major project. There will also be a final examination consisting of both qualitative and quantitative short-answer questions. The following criteria will be applied in assessing your work:

- x evidence of critical understanding of the concepts developed in the course
- x ability to apply these concepts to a range of software problems
- x clarity of description, explanation and attention to the focus of the assessment task
- x degree to which the material submitted for assessment addresses the specified requirements.

Assessment	Contribution	Comment
Diagnostic	0%	In week 1, we will ask you to answer some simple
exam		questions. This will help us to have an understanding of
		your background and skills.

Tutorials/Han 4

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Questions

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of the exam should present no problems to people who have attended and participated in the lectures. Learning

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x Individual team member assessment will be based on the task that each team member is responsible for.

x We will make a TEAMS channel (under the main TEAMS channel) for each team, separately.

#### How can you deliver your Major project?

- x We will give you 15 minutes to deliver your Major project to the instructor. You need to show that your healthcare system works without any issue.
- x The healthcare system can be run either on i) your own machine; ii) Green room machines.
- x You can present the Major project either F-2-F (depending on the COVID-19 situation) or through Microsoft TEMAS.
- x All group members should be in the presentation and must be able to run and explain the product (their healthcare system).

The main purpose of team-based learning is to learn from each other. We have

Bonus 5% (Individual contribution to the TEAMS discussions)

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All assessments which you hand in **must** have a **Non Plagiarism Declaration Cover Sheet**. This is for both individual and group work. Attach it to your assignment before

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## COURSE CONTENT IN DETAILS

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xProgramming in HTML

xHypertext Markup Language xHTML Editor xHypertext & HTML xHeadings, Tags, Nested Tags xStructure of a Web Page xTags vs. Elements xStructural Elements xSimple HTML Program xHTML Text Tags: Paragraph Tag xHTML Formatting Tags xHTML Horizontal Rule Week 4: xHTML font, alignment xHTML LIST, Nested Lists Hypertext Markup Language (HTML) Forms and xHTML Character Entities Dreamweaver xLinking, Anchors xMailto xInserting Images xHTML map xBasic Colour Names xTables xcellpadding xFrames xHTML Forms xPassword xCheckbox, list box, etc xSubmit Button xDreamweaver xWhy JavaScript? xWhat is JavaScript? xBasic JavaScript Syntax xScripts in HEAD or BODY xFunctions in the BODY and HEAD xFunctions in external file xVariables xData Conversion xArithmetic and Logical Operators Statements & Loops Week 5:

xSample Code

xObject Oriented Programming xClass and Object Example

Javascript

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# APPENDIX: ENGINEERS AUSTRALIA (EA) PROFESSIONAL ENGINEER COMPETENCY STANDARD

Program Intended Learning Outcomes		
Knowledge and skill base		
PE1.1 Comprehensive, theory-based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline.	YES	
PE1.2 Conceptual understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the engineering discipline.	YES	
PE1.3 In-depth understanding of specialist bodies of knowledge within the engineering discipline.	YES	
PE1.4 Discernment of knowledge development and research directions within the engineering discipline.	YES	
PE1.5 Knowledge of engineering design practice and contextual factors impacting the engineering discipline.	YES	