

## BACHELOR OF MEDICAL ENGINEERING (HONOURS)

Program Code: 40126

CRICOS Code: 096509K



### Transition Arrangements

Last Updated: October 2020

The following description outlines the approved transition arrangements for students who commenced in the Bachelor of Medical Engineering (Honours) program prior to 2021. Students who commence the program in 2021 onwards must complete the courses and follow the program structure that is outlined in the [Program Handbook](#). If you need further advice, then please contact your Academic Program Advisor on [programadvice@newcastle.edu.au](mailto:programadvice@newcastle.edu.au).

#### MEDICAL DEVICES MAJOR

##### Course Code and Title

(Not yet completed)

##### New Course Code and Title

(Course to be completed from 2021 onwards as offered)

'Completed' means successfully passed a course or received approved credit for a course

##### CORE COURSES

##### Mathematics Core Option

##### Option 1

MATH1110 Mathematics for Engineering, Science and Technology 1 **AND**

MATH1120 Mathematics for Engineering, Science and Technology 2

**OR**

##### Option 2

MATH1210 Mathematical Discovery 1 **AND**

MATH1220 Mathematical Discovery 2

**MATH1110 Mathematics for Engineering, Science and Technology 1**

**AND**

**MATH1120 Mathematics for Engineering, Science and Technology 2**

##### *Please note:*

*After 2021, the option to do MATH1210 and MATH1220 has been removed from the program.*

##### *From 2021 onwards:*

*1) if you have not yet completed MATH1210 you must complete MATH1110; and*

*2) if you haven't completed MATH1220 then you must complete MATH1120.*

#### MEDICAL DEVICES MAJOR

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##### COMPULSORY COURSES

**10 units of Medical Devices directed courses**

**\*ELEC2720 Introduction to Embedded Computing**

**10 units of Medical Devices directed courses**

**\*\*ELEC4210 Electronics Design**

## DIRECTED COURSES

Choose 20 units from the following directed courses

PHYS2160 Modern Optics

**PHYS2211 Modern Physics 1** (*previously  
PHYS2170*)

ENGG2440 Modelling and Control

HUBS2203 Introductory Pharmacology

HUBS2503 Clinical Exercise Physiology

ELEC2720 Introduction to Embedded Computing

ELEC4210 Electronics Design

**From 2021, directed courses have been removed from the Medical Devices major. Previously completed directed courses will still count towards the major.**

### **\*ELEC2720 Introduction to Embedded Computing and ELEC3730 Digital and Computer Electronics 2**

- For students who have already completed ELEC3730, they are not required to complete ELEC2720. Students in this scenario may be required to utilise their remaining directed course on ELEC4210 (see note below).
- For students who have not completed ELEC3730 **and** have an available directed course (that is, 10 units not already completed from the directed list) will complete ELEC2720 followed by ELEC3730.
- Should a student have no directed or elective courses available, they will not be required to complete ELEC2720. Students may choose to utilise an elective to undertake ELEC2720 but are not required to do so. Students who still require ELEC3730 will be supported by the Course Coordinator with additional learning materials to ensure they have adequate assumed knowledge to complete ELEC3730.

### **\*\*ELEC4210 Electronics Design**

- Students with directed courses remaining should complete ELEC4210.
- Should a student have no directed or elective courses available, they will not be required to complete ELEC4210. Students may choose to use an elective course to complete ELEC4210 but are not required to do so.

## MEDICAL BIOMECHANICS MAJOR

**Course Code and Title**  
(Not yet completed)

**New Course Code and Title**

(Course to be completed from 2021 onwards as offered)

'Completed' means successfully passed a course or received approved credit for a course

## COMPULSORY COURSES

MECH2710 Fluid Mechanics 1

**ENGG2300 Engineering Fluid Mechanics**

## Medical Signal Analysis Major and Medical Computing Major

From Semester 2, 2020, the Medical Signal Analysis Major and Medical Computing Major have been discontinued from the program.

<b>MEDICAL SIGNAL ANALYSIS MAJOR – Discontinued</b>	
<b>Course Code and Title</b> (Not yet completed)	<b>New Course Code and Title</b> (Course to be completed from 2021 onwards as offered)
‘Completed’ means successfully passed a course or received approved credit for a course	
<b>COMPULSORY COURSES</b>	
ELEC1310 Introduction to Electrical Engineering	ELEC1310 Introduction to Electrical Engineering
ELEC1710 Digital and Computer Electronics 1	ELEC1710 Digital and Computer Electronics 1
ENGG1003 Introduction to Procedural Programming	ENGG1003 Introduction to Procedural Programming
PHYS1210 Advanced Physics I	PHYS1210 Advanced Physics I
PHYS1220 Advanced Physics II	PHYS1220 Advanced Physics II
ELEC2430 Circuits and Signals	ELEC2430 Circuits and Signals
MATH2310 Calculus of Science and Engineering	MATH2310 Calculus of Science and Engineering
ELEC3400 Signal Processing	ELEC3400 Signal Processing
HUBS3302 Bioinformatics and Functional Genomics	HUBS3302 Bioinformatics and Functional Genomics
MENG3450 Medical Imaging	MENG3450 Medical Imaging
<b>DIRECTED COURSES</b>	
Choose 20 units from the following directed courses	
PHYS2160 Modern Optics	<b>If you have not yet done this course, then choose another Directed course from the list.</b>
ELEC2320 Electrical and Electronic Circuits	ELEC2320 Electrical and Electronic Circuits
ENGG2440 Modelling and Control	ENGG2440 Modelling and Control
HUBS2203 Introductory Pharmacology	HUBS2203 Introductory Pharmacology
ELEC3540 Analog and Digital Communications	ELEC3540 Analog and Digital Communications
HUBS3512 Neurobiology of Mental Illness	<b>If you have not yet done this course, then choose another Directed course from the list.</b>

## MEDICAL COMPUTING MAJOR – Discontinued

Students in the Medical Computing major are permitted to select 10 units of directed courses (ELEC1710) at the 1000 level or above. Elective courses must be chosen at the 2000 level and above.

### Course Code and Title

(Not yet completed)

### New Course Code and Title

(Course to be completed from 2021 onwards as offered)

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### COMPULSORY COURSES

COMP1140 Database and Information Management	COMP1140 Database and Information Management
MATH1510 Discrete Mathematics	MATH1510 Discrete Mathematics
SENG1050 Web Technologies	SENG1050 Web Technologies
SENG1110 Object Orientated Programming	SENG1110 Object Orientated Programming
SENG1120 Data Structures	SENG1120 Data Structures
COMP2230 Algorithms	COMP2230 Algorithms
HUBS2505 Human Pathophysiology	HUBS2505 Human Pathophysiology
COMP3330 Machine Intelligence	COMP3330 Machine Intelligence
HUBS3302 Bioinformatics and Functional Genomics	HUBS3302 Bioinformatics and Functional Genomics
MENG3750 eHealth: Privacy and Security	MENG3750 eHealth: Privacy and Security

### DIRECTED COURSES

Choose 20 units from the following directed courses

ELEC1710 Digital and Computer Electronics 1	ELEC1710 Digital and Computer Electronics 1
HUBS2203 Introductory Pharmacology	HUBS2203 Introductory Pharmacology
SENG2050 Web Engineering	SENG2050 Web Engineering
SENG2260 Human-Computer Interaction	SENG2260 Human-Computer Interaction
COMP3340 Data Mining	COMP3340 Data Mining
HUBS3411 Frontiers in Chronic Disease	<b>If you have not yet done this course, then choose another Directed course from the list.</b>