

Bachelor of Medical Engineering (Honours) [40126] – Medical Biomechanics Major

TRANSITION ARRANGEMENTS - INFORMATION FOR STUDENTS WHO COMMENCED IN THE PROGRAM PRIOR TO SEMESTER 2 2021

Changes have been made to the Bachelor of Medical Engineering (Honours) program from 2021 onwards. Information regarding the changes to the Medical Biomechanics program structure can be found on pages 2 and 3. Information on enrolment and transition can be found on pages 4, 5 and 6.

Summary of Changes

	Pre-Semester 2 2021	Semester 2 2021 Onwards
Core Courses	160	130
HUBS Directed Course List A	-	10
HUBS Directed Course List B	-	20
Medical Devices Major	120	150
Electives	40	10

New courses

30 units of new courses are being created to support students undertaking the Medical Devices major within the Medical Engineering (Honours) degree.

Course Code	Course Name	Where course sits in structure	Course available from
MENG3500	Regulatory Requirements for Medical Engineering	Core	Sem 2 2021
MENG3100	Biomaterials and Fluid Dynamics	Major	Sem 2 2022
MENG4100	Implants and Assistive Technologies	Major	Sem 2 2022

Frequently Asked Questions

Can I still complete my major?

Yes, you will still be able to complete your major.

Does this change what I need to enrol in?

The courses you need to enrol in may have changed, however, you will not be required to complete more than the 320 units required for your program.

Will this delay my graduation?

No. As the changes do not increase the total number of courses you need to complete these changes will not delay your graduation.

I have completed a course that is no longer offered. Does it still count?

Yes, all courses successfully completed prior to Sem 2, 2021 will continue to count towards your program and major requirements. Please see the transition table information to check your remaining major requirements. If you are unsure what to enrol in, please email programadvice@newcastle.edu.au before enrolment to check that the courses you plan to complete will meet the requirements of your program.

If you have any questions, please contact your Academic Program Advisor at programadvice@newcastle.edu.au.

Bachelor of Medical Engineering (Honours) [40126] – Medical Biomechanics Major

TRANSITION ARRANGEMENTS - INFORMATION FOR STUDENTS WHO COMMENCED IN THE PROGRAM
PRIOR TO SEMESTER 2 2021

Changes to Program Structure

B Med Eng (Hons) Core Courses – Pre Sem 2, 2021			B Med Eng (Hons) Core Courses – Sem 2, 2021 onwards		
Course Code	Course Title	Units	Course Code	Course Title	Units
^CHEM1010	Introductory Chemistry I	10			
			#ENGG1003	Introduction to Procedural Programming	10
ENGG1500	Introduction to Professional Engineering	10	ENGG1500	Introduction to Professional Engineering	10
~HUBS1105	Musculoskeletal Anatomy	10			
~HUBS1401	Human Bioscience	10			
~HUBS1420	Terminology and Communication in Biomedicine	10			
MATH1110	Mathematics for Engineering, Science and Technology 1	10	MATH1110	Mathematics for Engineering, Science and Technology 1	10
MATH1120	Mathematics for Engineering, Science and Technology 2	10	MATH1120	Mathematics for Engineering, Science and Technology 2	10
ENGG2500	Sustainable Engineering Practice	10	ENGG2500	Sustainable Engineering Practice	10
^HUBS2103	Neural and Visceral Anatomy	10			
^HUBS2206	Human Biochemistry and Cell Biology	10			
			#MATH2310	Calculus of Science and Engineering	10
ENGG3500	Managing Engineering Projects	10	ENGG3500	Managing Engineering Projects	10
			*MENG3500	Medical Engineering Regulatory Requirements and Quality Systems	10
MENG3800	Medical Engineering Research	10	MENG3800	Medical Engineering Research	10
ENGG4500	Engineering Complexity	10	ENGG4500	Engineering Complexity	10
MENG4800A	Medical Engineering Project A	10	MENG4800A	Medical Engineering Project A	10
MENG4800B	Medical Engineering Project B	20	MENG4800B	Medical Engineering Project B	20
			HUBS Directed Course List A – 10 units Choose 10 units from the following directed courses		
			~HUBS1105	Musculoskeletal Anatomy	10
			+HUBS1109	Anatomy for Biomedical Science	10
			HUBS Directed course List B – 20 units Complete a course pair from either [HUBS1401 and HUBS1420] or [HUBS1403 and HUBS1404].		
			~HUBS1401	Human Bioscience	10
			~HUBS1420	Terminology and Communication in Biomedicine	10
			+HUBS1403	Biomedical Science Part 1	10
			+HUBS1404	Biomedical Science Part 2	10
Total core		160	Total core		160
Key					
# Medical Devices major course to become Core for students who commence in Sem 2, 2021 onwards.					
^ Course no longer part of program. If you have already completed this course, it still counts towards your degree.					
~ Course no longer core, but part of a Directed course list.					
+ Existing Course Added to program					
* New course to be offered for the first time in Semester 2, 2021.					

Bachelor of Medical Engineering (Honours) [40126] – Medical Biomechanics Major

TRANSITION ARRANGEMENTS - INFORMATION FOR STUDENTS WHO COMMENCED IN THE PROGRAM
PRIOR TO SEMESTER 2 2021

Changes to the Program Structure continued.

B Med Eng (Hons) Medical Biomechanics Major Courses - Pre Sem 2, 2021			B Med Eng (Hons) Medical Biomechanics Major Courses - Sem 2, 2021 onwards		
Course Code	Course Title	Units	Course Code	Course Title	Units
"CIVL1100	Fundamentals of Engineering Mechanics	10			
"ELEC1310	Introduction to Electrical Engineering	10			
#ENGG1003	Introduction to Procedural Programming	10			
			+EXSS1040	Functional Anatomy	10
MECH1110	Introduction to Mechanical Engineering Design	10	MECH1110	Introduction to Mechanical Engineering Design	10
			+MECH1750	Materials 1	10
"PHYS1210	Advanced Physics I	10			
			+ENGG2100	Engineering Risk and Uncertainty	10
ENGG2300	Engineering Fluid Mechanics	10	ENGG2300	Engineering Fluid Mechanics	10
ENGG2440	Modelling and Control	10	ENGG2440	Modelling and Control	10
			+EXSS2020	Biomechanics	10
#MATH2310	Calculus of Science and Engineering	10			
MECH2110	Mechanical Engineering Design 1	10	MECH2110	Mechanical Engineering Design 1	10
			+MECH2430	Mechanics of Solids 1	10
"MECH2360	Dynamics of Machines	10			
^MECH3400	Materials Science and Engineering 2	10			
			+EXSS3060	Advanced Biomechanics	10
			~MECH3720	Thermodynamics	10
			*MENG3100	Biomaterials and Fluid Dynamics	10
			*MENG4100	Implants and Assistive Technologies	10
			+MECH4410	Mechanics of Solids 2 and FEA	10
3000 level Directed Courses – 10 units			Major Directed Courses – 10 units		
<i>Choose 10 units from the following directed courses</i>			<i>Choose 10 units from the following directed courses</i>		
MECH3110	Mechanical Engineering Design 2	10			
~MECH3720	Thermodynamics	10			
MECH3780	Fluid Mechanics 2 and CFD	10			
			"CIVL1100	Fundamentals of Engineering Mechanics	10
			"ELEC1310	Introduction to Electrical Engineering	10
			+EXSS1050	Fundamentals of Exercise and Sport Science Practice	10
			+EXSS1070	Physical Activity and Exercise Across the Lifespan	10
			+EXSS1080	Psychological, Nutritional and Injury Foundations for Exercise and Sport Science	10
			+HUBS1106	Head and Neck Anatomy	10
			+HUBS1107	Neuroscience and Head and Neck Anatomy	10
			+PHYS1210	Advanced Physics I	10
			+EXSS2080	Growth, Development and Ageing	10
			"MECH2360	Dynamics of Machines	10
Total core		120	Total core		150
Key					
# Medical Devices major course to become Core for students who commence in Sem 2, 2021 onwards.					
~ Directed course now Compulsory					
" Compulsory course now Directed.					
^ Course no longer part of program. If you have already completed this course, it still counts towards your degree.					
+ Existing course added to the Medical Devices major.					
* New course to be offered from 2022 onward					

Bachelor of Medical Engineering (Honours) [40126] – Medical Biomechanics Major

TRANSITION ARRANGEMENTS - INFORMATION FOR STUDENTS WHO COMMENCED IN THE PROGRAM
PRIOR TO SEMESTER 2 2021

Transition and enrolment information

ALL B MEDICAL ENGINEERING (HONOURS) - MEDICAL DEVICES MAJOR STUDENTS	
One-for-one equivalent courses:	
If you have not successfully completed:	Then you must complete:
<p>Mathematics Core Courses</p> <p>Students previously were able to choose from the following options for Math core courses:</p> <p>Option 1) MATH1110 Mathematics for Engineering, Science and Technology 1 AND MATH1120 Mathematics for Engineering, Science and Technology 2</p> <p>OR</p> <p>Option 2) MATH1210 Mathematical Discovery 1 AND MATH1220 Mathematical Discovery 2</p>	<p>From 2021, the option to do MATH1210 and MATH1220 has been removed from the program.</p> <p>From Semester 1 2021 onwards:</p> <p>1) if you have not yet completed MATH1210 you must complete MATH1110; and</p> <p>2) if you haven't completed MATH1220 then you must complete MATH1120.</p>
<p>HUBS1105 Musculoskeletal Anatomy</p>	<p>Choose 10 units from the following directed courses</p> <p>HUBS1105 Musculoskeletal Anatomy HUBS1109 Anatomy for Biomedical Science</p>
<p>HUBS1401 Human Bioscience and/or HUBS1420 Terminology and Communication in Biomedicine</p>	<p>If you have successfully completed BOTH HUBS1401 and HUBS1420, then these courses will continue to count towards your degree requirements.</p> <p>If you have successfully completed EITHER HUBS1401 OR HUBS1420, then you must complete the remaining course from this Directed pairing.</p> <p>If you have successfully completed NEITHER HUBS1401 or HUBS1420, then you have the choice to complete either:</p> <p>a) HUBS1401 and HUBS1420, or b) HUBS1403 and HUBS 1404</p>

Bachelor of Medical Engineering (Honours) [40126] – Medical Biomechanics Major

TRANSITION ARRANGEMENTS - INFORMATION FOR STUDENTS WHO COMMENCED IN THE PROGRAM
PRIOR TO SEMESTER 2 2021

Changes to program requirements without one-for-one equivalent courses available

In 2021, 120 units (i.e. 90 units from the Core/Major, and 30 units of Electives) of courses were removed from the program for students in the Medical Biomechanics major without a direct one-for-one replacement. Students should replace these removed courses with the newly prescribed courses.

Courses removed:	Courses Added to program:	
	Course Code	Current Availability
<ul style="list-style-type: none"> • CHEM1010 • PHYS1210 • CIVL1100 • ELEC1310 • HUBS2103 • HUBS2206 • MECH2360 • MECH3400 • 10 units of 3000 level directed courses • 30 units of electives 	EXSS1040	Semester 2. Available now
	MECH1750	Semester 2. Available now
	ENGG2100	Semester 1. Available now
	MECH2430	Semester 2. Available now
	EXSS2020	Semester 1. Available now
	EXSS3060	Semester 2. Available now
	MECH3720	Semester 2. Available now
	MECH4410	Semester 1. Available now
	MENG3100	First offered in Semester 2, 2022.
	MENG4100	First offered in Semester 1 2023.
	MENG3500	First offered in Semester 2, 2021. Will be available from 2022 onwards as Semester 1 course.
	10 units of Major directed courses	Semester 1 and Semester 2 options available now
Courses completed	You need to complete	
If you have successfully completed 0 units of the 120 units removed	<ul style="list-style-type: none"> • 10 units of major directed courses • EXSS1040 • MECH1750 • EXSS2020 • ENGG2100 • MECH2430 	<ul style="list-style-type: none"> • EXSS3060 • MECH3720 • MENG3100 • MENG3500 • MECH4410 • MENG4100
If you have successfully completed 10 units of the 120 units removed	<ul style="list-style-type: none"> • EXSS1040 • MECH1750 • EXSS2020 • ENGG2100 • MECH2430 • EXSS3060 	<ul style="list-style-type: none"> • MECH3720 • MENG3100 • MENG3500 • MECH4410 • MENG4100
If you have successfully completed 20 units of the 120 units removed	<ul style="list-style-type: none"> • MECH1750 • EXSS2020 • ENGG2100 • MECH2430 • EXSS3060 	<ul style="list-style-type: none"> • MECH3720 • MENG3100 • MENG3500 • MECH4410 • MENG4100
If you have successfully completed 30 units of the 120 units removed	<ul style="list-style-type: none"> • EXSS2020 • ENGG2100 • MECH2430 • EXSS3060 • MECH3720 	<ul style="list-style-type: none"> • MENG3100 • MENG3500 • MECH4410 • MENG4100

Bachelor of Medical Engineering (Honours) [40126] – Medical Biomechanics Major

TRANSITION ARRANGEMENTS - INFORMATION FOR STUDENTS WHO COMMENCED IN THE PROGRAM
PRIOR TO SEMESTER 2 2021

Changes to program requirements without one-for-one equivalent courses available continued.	
Courses completed	You need to complete
If you have successfully completed 40 units of the 120 units removed	<ul style="list-style-type: none"> • EXSS2020 • MECH2430 • Either ENGG2100 or MECH3720 • EXSS3060 • MENG3100 • MENG3500 • MECH4410 • MENG4100
If you have successfully completed 50 units of the 120 units removed	<ul style="list-style-type: none"> • EXSS2020 • MECH2430 • Either ENGG2100 or MECH3720 • EXSS3060 • MENG3100 • MENG3500 • MECH4410
If you have successfully completed 60 units of the 120 units removed	<ul style="list-style-type: none"> • EXSS2020 • MECH2430 • EXSS3060 • MENG3100 • MENG3500 • MECH4410
If you have successfully completed 70 units of the 120 units removed	<ul style="list-style-type: none"> • A pair of courses from either [MECH2430 and MECH4410] or [EXSS2020 and EXSS3060] • Either ENGG2100 or MECH3720 • MENG3100 • MENG3500
If you have successfully completed 80 units of the 120 units removed	<ul style="list-style-type: none"> • MENG3100 • MENG3500 • A pair of courses from either [MECH2430 and MECH4410] or [EXSS2020 and EXSS3060]
If you have successfully completed 90 units of the 120 units removed	<ul style="list-style-type: none"> • Either MECH2430 or EXSS2020 • MENG3100 • MENG3500
If you have successfully completed 100 units of the 120 units removed	<ul style="list-style-type: none"> • MENG3100 • MENG3500
If you have successfully completed 110 units of the 120 units removed	<ul style="list-style-type: none"> • MENG3500
If you have successfully completed all 120 units of the 120 units removed	<p>Students who have completed all 120 units of removed courses and all electives for their program should seek advice on their final courses. Approval to count MENG3500 in lieu of other program requirements may be granted where necessary. Contact programadvice@newcastle.edu.au for further information.</p>