Curriculum 2017 V.2 Approved
Programme Code: MTEMP006 Master of Engineering
Major Code: T160 ME Biomedical Engineering FT
Programme Coordinators: Dr Madeleine Lowery and Dr Eoin O'Cearbhaill

6 Modules	Semester 1, Year 1	Pre-Requisite: UCD Module Code No.	Core Credits	Option Credits	4 Modules	Semester 2, Year 1 (30-Credit PWE)	Pre-Requisite: UCD Module Code No.	Core Credits	Option Credits
ANAT20090	Medical Sciences for Biomedical Engineers (unless already taken)		5		EEEN40170	ME Biomedical Professional Work Experience (Jan to July/August)		30	
MEEN40620	Biomechanics		5						
MEEN40630	Biomaterials		5						
MEEN40600	Medical Device Design		5						
YEAR 1, SEMESTER 1 = 30 CREDITS REQUIRED. CHOOSE TWO or THREE OPTION MODULES FROM THE LIST BELOW									
OR ELSEWHERE - AS AGREED BY THE PROGRAMME COORDINATOR & THE ENGINEERING PROGRAMME BOARD									
Biomedical Engineering Modules									
EEEN30160	Biomedical Signal and Image Analysis			*5*					
EEEN30210	Biomedical Imaging			*5*					
Engineering Modules									
EEEN30110	Signals and Systems			*5*					
EEEN40010	Control Theory			5					
EEEN40030	Photonic Engineering			*5*					
EEEN40050	Wireless Systems			5					
EEEN40150	Radio Frequency Electronics			5					
MEEN30030	Mechanical Engineering Design II			5					
MEEN40060	Fracture Mechanics			5					
MEEN40020	Mechanics of Fluids II			5					
MEEN40050	Computational Continuum Mechanics I			5					
MEEN40150	Computational Continuum Mechanics II			5					
MEEN40030	Manufacturing Engineering II			5					
EEEN40580	Optimisation Techniques for Engineers			5					
EEEN40300	Engineering Entrepeneurship			5					
Modules from outside Engineering									
COMP41670	Software Engineering			5					
NEUR30080	Neuromuscular and membrane biology	PHYS20040		5					
PHYC40430	Nanomechanics - from single molecules to single cells			5					
PHYS20040	An introduction to Physiology: Human cells and tissues (unless already taken)			5					
PHYS30010	Physiology of the Cardiovascular System	PHYS20030		5					
STAT30240	Linear Models I (Statistics)			5					
STAT40400	Monte Carlo Inference			5					
	SEMESTER CREDIT TOTALS		**20**	**10**		**SEMESTER CREDIT TOTALS**		**30**	

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4 Modules	Semester 1, Year 2	Pre-Requisite: UCD Module Code No.	Core Credits	Option Credits
EEEN40220	ME Biomedical Project - Part 1 (C)		5	
MEEN40560	Research Skills and Techniques		5	
YEAR 2, SEMESTER 1 = 30 CREDITS REQUIRED. CHOOSE FOUR OPTION MODULES FROM THE LIST BELOW OR ELSEWHERE - AS AGREED BY THE PROGRAMME COORDINATOR & THE ENGINEERING PROGRAMME BOARD				
Biomedical Engineering Modules				
EEEN30210	Biomedical Imaging			5
Engineering Modules				
EEEN30110	Signals and Systems			5
EEEN40010	Control Theory			5
EEEN40050	Wireless Systems			5
EEEN40150	Radio Frequency Electronics			5
MEEN30030	Mechanical Engineering Design II			5
EEEN40030	Photonic Engineering			5
MEEN40060	Fracture Mechanics			5
MEEN40020	Mechanics of Fluids II			5
MEEN40050	Computational Continuum Mechanics I			5
MEEN40150	Computational Continuum Mechanics II			5
MEEN40030	Manufacturing Engineering II			5
EEEN40580	Optimisation Techniques for Engineers			5
EEEN40300	Engineering Entrepeneurship			5
Modules from outside Engineering				
COMP41670	Software Engineering			5
NEUR30080	Neuromuscular and membrane biology	PHYS20040		5
PHYC40430	Nanomechanics - from single molecules to single cells			5
PHYS30010	Physiology of the Cardiovascular System	PHYS20030		5
STAT30240	Linear Models I (Statistics)			5
STAT40400	Monte Carlo Inference			5
	SEMESTER CREDIT TOTALS		10	20

4 Modules	Semester 2, Year 2	Pre-Requisite: UCD Module Code No.	Core Credits	Option Credits
EEEN40220	ME Biomedical Project - Part 2 (C)		15	
YEAR 2, SEMESTER 2 = 30 CREDITS REQUIRED. CHOOSE THREE OPTION MODULES FROM THE LIST BELOW AS INDICATED BELOW OR ELSEWHERE - AS AGREED BY THE THE PROGRAMME COORDINATOR & THE ENGINEERING PROGRAMME BOARD				
Biomedical Engineering Modules				
MEEN41010	Biomechanics of Cells and Tissues			5
CHEN40470	Cell Culture and Tissue Engineering			5
EEEN40350	Rehabilitation Engineering			5
EEEN40070	Neural Engineering			5
EEEN 30180	Bioinstrumentation			
Engineering Modules				
MEEN40040	Materials Science and Engineering III			5
MEEN40180	Nanomaterials			5
MEEN30010	Applied Dynamics II			5
MEEN40070	Advanced Metals/Materials Processing			5
Modules from outside Engineering				
COMP40400	Bioinformatics			5
RDGY30440	Image Analysis in Matlab			5
PHYS20030	Organ and Systems Physiology			5
PHYS20020	Neurophysiology: Physiology of Sensing and Responding to the Internal and External Environment	PHYS10020		5
	SEMESTER CREDIT TOTALS		15	15