

## Programme Regulations: 2023/24

### Programme Title: Degree of Master of Science in Biomedical Engineering - Code: 5204F

#### Notes:

- (i) *These programme regulations should be read in conjunction with the University's Taught Programme Regulations.*
- (ii) *A core module is a module which a student must pass.*
- (iii) *A compulsory module is a module which a student is required to study.*
- (iv) *A core module for PSRB accreditation is a module a student is required to obtain accreditation*
- (v) *All modules are delivered in Linear mode unless stated otherwise as Block, eLearning or distance learning.*
- (vi) *If a candidate is a graduate of Newcastle University the candidate is not permitted to take a module which has already been taken as part of another programme. In such a case the Degree Programme Director shall substitute appropriate modules.*

#### 1. Programme structure

- (a) The programme is available for study in full-time mode only.
- (b) The period of study for full-time mode shall be one year starting in September.
- (c) The programme comprises modules to a credit value of 180.
- (d) All candidates shall take the following compulsory modules:

<i>Code</i>	<i>Descriptive title</i>	<i>Total Credits</i>	<i>Credits Sem 1</i>	<i>Credits Sem 2</i>	<i>Credits Sem 3</i>	<i>Level</i>	<i>Type</i>	<i>Mode</i>
MEC8056	Medical Devices Regulatory Requirements	20		20		7		Block
MEC8059	Biomaterials	20	20					Block

- (e) Candidates who have studied Introduction to Biomedical Engineering (MEC3022/MEC3031) as part of a previous programme of study at Newcastle University shall replace MEC8054 with the following compulsory module:

<i>Code</i>	<i>Descriptive title</i>	<i>Total Credits</i>	<i>Credits Sem 1</i>	<i>Credits Sem 2</i>	<i>Credits Sem 3</i>	<i>Level</i>	<i>Type</i>	<i>Mode</i>
MEC8029	Design of Mechanical Power Transmissions	20	20			7		Block

(f) Candidates shall select one of the streams listed in (i)-(iv) below:

**(i) Biomechanical Engineering Stream**

All candidates shall take the following compulsory modules:

<i>Code</i>	<i>Descriptive title</i>	<i>Total Credits</i>	<i>Credits Sem 1</i>	<i>Credits Sem 2</i>	<i>Credits Sem 3</i>	<i>Level</i>	<i>Type</i>	<i>Mode</i>
CME8060	Lifetime Prediction & Design for Reliability	20		20		7		Block
MEC8049	Orthopaedic Engineering	20		20		7		Block
MEC8051	Biomedical Additive Manufacture and Biofabrication	20	20			7		Block
MEC8054	Contemporary Case Studies in Biomedical Engineering	20	20			7		Block
MEC8095	MSc Project: Mechanical and Systems Engineering	60		10	50	7	Core	

**(ii) Biomaterials Stream**

All candidates shall take the following compulsory modules:

<i>Code</i>	<i>Descriptive title</i>	<i>Total Credits</i>	<i>Credits Sem 1</i>	<i>Credits Sem 2</i>	<i>Credits Sem 3</i>	<i>Level</i>	<i>Type</i>	<i>Mode</i>
MEC8049	Orthopaedic Engineering	20		20		7		Block
MEC8054	Contemporary Case Studies in Biomedical Engineering	20	20			7		Block
MEC8060	Tissue Engineering	20		20		7		Block
MEC8061	Biomimetics	20	20			7		Block
MEC8095	MSc Project: Mechanical and Systems Engineering	60		10	50	7		

**(iii) Bioelectrical Engineering Stream**

All candidates shall take the following compulsory modules:

<i>Code</i>	<i>Descriptive title</i>	<i>Total Credits</i>	<i>Credits Sem 1</i>	<i>Credits Sem 2</i>	<i>Credits Sem 3</i>	<i>Level</i>	<i>Type</i>	<i>Mode</i>
EEE8097	Individual Project	60		10	50	7		
EEE8116	Bioelectronics	20		20		7		Block
EEE8121	Internet of Things and Wireless Sensor Networks (Coursework)	20	20			7		Block
EEE8161	Machine Learning for Engineering Applications	20		20		7		Block
MEC8080	Core Skills	20	20			7		Block

**(iv) Regulatory Sciences Stream**

All candidates shall take the following compulsory modules:

<i>Code</i>	<i>Descriptive title</i>	<i>Total Credits</i>	<i>Credits Sem 1</i>	<i>Credits Sem 2</i>	<i>Credits Sem 3</i>	<i>Level</i>	<i>Type</i>	<i>Mode</i>
HSC8008	Global Health Policy & Medicines Use	20		20		7		
HSC8057	Global Health	20	20			7		
MEC8049	Orthopaedic Engineering	20		20		7		Block
MEC8054	Contemporary Case Studies in Biomedical Engineering	20	20			7		Block
MEC8095	MSc Project: Mechanical and Systems Engineering	60		10	50	7	Core	

**2. Assessment methods**

Details of the assessment pattern for each module are explained in the module outline.

For the purpose of professional accreditation, the University's Education Committee has approved a variation in Postgraduate (Taught) Examination Conventions to the effect that a candidate who passes all core modules and fails up to 20 credits of non-core modules is recommended, as of right, for the award of an appropriate Master's Degree or Postgraduate Diploma, provided that no mark is below 40 and the weighted average mark for all modules and non-module aggregated assessment is at least 50.

Any student not satisfying the accreditation requirements, but satisfying University's Degree and Assessment regulations, will have the opportunity to be awarded a non-accredited degree with its classification based on the overall final stage average.