

## ***BSc (Hons) Medical Physiology***

### Programme Specification

<b>1. Programme title</b>	BSc (Hons) Medical Physiology BSc (Hons) Medical Physiology with Foundation Year
<b>2. Awarding institution</b>	Middlesex University
<b>3a. Teaching institution</b>	Middlesex University
<b>3b. Language of study</b>	English
<b>4a. Valid intake dates</b>	September
<b>4b. Mode of study</b>	Full-time and Part-time
<b>4c. Delivery method</b>	<input checked="" type="checkbox"/> On-campus/Blended <input type="checkbox"/> Distance Education
<b>5. Professional/Statutory/Regulatory body</b>	N/A
<b>6. Apprenticeship standard</b>	N/A
<b>7. Final qualification(s) available</b>	BSc (Hons) Medical Physiology BSc (Hons) Medical Physiology with Foundation Year BSc Medical Physiology DipHE Medical Physiology Cert HE Biomedical Studies
<b>8. Academic year effective from</b>	2024/2025

<b>9. Criteria for admission to the programme</b>
<p>Candidates normally require Maths and English equivalent to at least GCSE grade 4 as well as 112 UCAS tariff points or equivalent from one of the following awards.</p> <ul style="list-style-type: none"> <li>• A-levels (including two A2s with at least one science subject, preferably in biology or chemistry at grade C or better)</li> <li>• Or Two AVCEs or one double award in Science</li> <li>• Or EDEXCEL National Diploma or Certificate in biology, chemistry, forensic science, laboratory and industrial science, or medical science</li> <li>• Or Access course in applied science, clinical physiology, human or life sciences, medical or paramedical science, or science.</li> <li>• Or high school equivalent, such as an International Baccalaureate</li> </ul>

Applicants must be competent in English to study this course. For those for whom English is not their first language, the most commonly accepted evidence of English language ability is an overall of 6.0 in IELTS with a minimum of 5.5 in each component or an equivalent English qualification.

Recognition of Prior Learning (RPL) scheme: Past learning or experience will be mapped against existing programme modules within the programme and the mapping will be considered to determine both the number of academic credits and the module exceptions to be awarded.

Please refer to the programme specification for the Foundation Year for criteria for admission to the [BSc \(Hons\) Medical Physiology with Foundation Year](#) programme.

## 10. Aims of the programme

The programme aims to allow students to:

- Gain an understanding of the human physiology and how body's physiological systems respond to extreme ambient pressures and temperatures, extreme accelerations and space environment;
- Understand the causes of and pathophysiology of diseases of the cardiovascular, respiratory, musculoskeletal and the nervous systems;
- Appreciate how instruments record, store and analyse anthropological and physiological data;
- Acquire knowledge and skills required to carry out a range of investigative techniques used to assess the health status of an individual or to evaluate human performance in response to extreme environmental conditions;
- Understand the scientific method, approaches to research, development and innovation;
- Develop a range of employability skills required for effective life-long learning, communication, teamworking and leadership.

## 11. Programme outcomes\*

### A. Knowledge and understanding

On completion of this programme the successful student will have knowledge and understanding of:

1. How the human body adapts or responds to environmental stressors;
2. The causes of and pathophysiology of diseases of the cardiovascular, respiratory, musculoskeletal and the nervous systems and the treatment of human disease;
3. How data are recorded, securely stored and analysed;
4. Techniques used to monitor and assess the function of the respiratory and cardiovascular systems to determine health status or evaluate human performance;
5. Techniques used to monitor and assess the function of the musculoskeletal and the nervous systems to determine health status or evaluate human performance;

6. The importance of research in the advancement of scientific knowledge and evidence-based practice.
7. Normal and abnormal biological processes.

### **Teaching/learning methods**

Students gain knowledge and understanding through bite size videos covering threshold concepts, interactive sessions, seminars, laboratory classes, peer presentations, debates, designing and undertaking a research project, role-play and practical sessions.

### **Assessment methods**

Students' knowledge and understanding is assessed by summative and formative assessment, including peer presentations, laboratory reports, laboratory books and online test.

## **B. Skills**

On completion of this programme the successful student will be able to:

1. Generate, analyse and critically evaluate research evidence and data using the most appropriate technology (4, 7);
2. Work collaboratively to solve physiological problems (1, 5, 6 and 8)
3. Reflect on own learning and practice to develop personally and professionally (1,6);
4. Present information in the most effective format to communicate ideas clearly (3);
5. Design and carry out a research project (1-8);
6. Perform a wide range of physiological techniques and procedures to assess human performance or health status (8);
7. Communicate their ideas or information effectively to both scientific and non-scientific audiences using a variety of media (3);
8. Formulate learning and career development plans (1);
9. Use a range of information technologies (7);
10. Demonstrate a high level of numeracy and problem-solving skills (4,8).

### **Teaching/learning methods**

Students learn skills through bite size videos covering threshold concepts, interactive sessions, seminars, peer presentations, a research project and debates, through reading, group work, problem-based solving exercises, structured and directed learning, analysis of case studies, and through reflection, and development of portfolio material.

### **Assessment methods**

Students' skills are assessed by formative and summative assessment as written work such as lab reports, case studies, assessment of practical skills and peer presentation, work in the form of portfolios, and project and research work.

These assessment methods are designed to evaluate graduate competencies including:

1. Leadership and Influence
2. Entrepreneurship
3. Communication, Empathy and Inclusion
4. Curiosity and Learning
5. Collaborative Innovation
6. Resilience and Adaptability
7. Technological Agility

## 8. Problem Solving and Delivery

### 12. Programme structure (levels, modules, credits and progression requirements)

#### 12.1 Structure of the programme

##### **BSc (Hons) Medical Physiology– Full-Time**

###### **Year 1**

- Semester 1: Laboratory and Professional Skills (BMS1565, 30 credits), Human Sciences (BMS1514, 30 credits)
- Semester 2: Cell Sciences and Genetics (BIO1557, 30 credits), Biomolecular Science (BMS1555, 30 credits)

###### **Year 2**

- Semester 1: Neurophysiology (BMS2955, 30 credits), Cardiopulmonary Science (BMS2895, 30 credits)
- Semester 2: Medical Instrumentation and Imaging (BMS2665, 30 credits), Research Methods and Science Innovation (BMS2586, 30 credits)

###### **Year 3**

- Semester 1: Human Performance Assessment (BMS3866, 30 credits), Neurophysiological Assessment (BMS3996, 30 credits)
- Semester 2: Cardiopulmonary Exercise Testing (BMS3886, 30 credits), Dissertation and Professional Development (BMS3506, 30 credits)

##### **BSc (Hons) Medical Physiology– Part-Time (indicative 6 - years plan)**

###### **Year 1**

- Semester 1: Human Sciences (BMS1514, 30 credits)
- Semester 2: Biomolecular Science (BMS1555, 30 credits)

###### **Year 2**

- Semester 1: Laboratory and Professional Skills (BMS1565, 30 credits)
- Semester 2: Cell Sciences and Genetics (BIO1557, 30 credits)

###### **Year 3**

- Semester 1: Cardiopulmonary Science (BMS2895, 30 credits)
- Semester 2: Medical Instrumentation and Imaging (BMS2665, 30 credits)

###### **Year 4**

- Semester 1: Neurophysiology (BMS2955, 30 credits)
- Semester 2: Research Methods and Science Innovation (BMS2586, 30 credits)

###### **Year 5**

- Semester 1: Neurophysiological Assessment (BMS3996, 30 credits)
- Semester 2: Cardiopulmonary Exercise Testing (BMS3886, 30 credits)

###### **Year 6**

- Semester 1: Human Performance Assessment (BMS3866, 30 credits)
- Semester 2: Dissertation and Professional Development (BMS3506, 30 credits)

Exit awards:

Cert HE Biomedical Studies, students must achieve between 120 and 210 credits at level 4 or above.

DipHE Medical Physiology, students must achieve between 240 and 270 credits at level 4 or above, including 90 credits at level 5 or above.

An ordinary degree in Medical Physiology (BSc), students must achieve between 300 and 330 credits at level 4 or above, including at least 150 credits at level 5 or above and a minimum of 60 credits at level 6 or above.

## 12.2 Levels and modules

Please refer to the programme specification for the Foundation Year for the modules to be taken during the foundation year of the [BSc \(Hons\) Medical Physiology with Foundation Year](#) programme.

### Level 4

#### Compulsory

Students must take all of the following:

BMS1514 Human Sciences  
BMS1555 Biomolecular Science  
BIO1557 Cell Sciences and Genetics  
BMS1565 Laboratory and Professional Skills

#### Optional

There are no optional modules.

### Progression requirements

Students must pass at least 90 credits to progress to Level 5.  
To achieve Honours, failed credit will need to be repeated.

### Level 5

#### Compulsory

Students must take all of the following:

BMS2586 Research Methods and Science Innovation  
BMS2665 Medical Instrumentation and Imaging  
BMS2895 Cardiopulmonary Science  
BMS2955 Neurophysiology

#### Optional

There are no optional modules.

**Progression requirements**

Students must pass BMS2895 and BMS2955 as prerequisite modules for entry to BMS3886 and BMS3996 at level 6, respectively.

Students must have passed at least 210 credits to progress to Level 6.

To achieve Honours, failed credit will need to be repeated.

**Level 6****Compulsory**

Students must take all of the following:

BMS3506 Dissertation and Professional Development

BMS3866 Human Performance Assessment

BMS3886 Cardiopulmonary Exercise Testing

BMS3996 Neurophysiological Assessment

**Optional**

There are no optional modules

**Progression requirements**

N/A

**12.3 Non-compensatable modules**

Module level	Module code
4	None
5	BMS2895, BMS2955
6	BMS3506

**13. Information about assessment regulations**

This programme will run in line with general University Regulations:

<https://www.mdx.ac.uk/about-us/policies>

**14. Placement opportunities, requirements and support (if applicable)**

Placements are not compulsory for this programme. Students voluntarily can contact MDXWorks, The Careers and Employability Service, who can support them to find a summer internship or to obtain work related experience. A suitable placement is an academic or a commercial research laboratory, a health service organisation or a charity related to medical physiology.

**15. Future careers / progression**

- Examples of employment directly related to a medical physiology degree include: physiologist, teacher, medical research scientist.

- Examples of employment where a medical physiology degree would be useful include: applied physiologist, cardiac rehabilitation exercise physiologist, cardiopulmonary exercise testing practitioner, clinical scientist, specialising in cardiac science, neurophysiology, or exercise physiologist.
- Typical employers of medical physiology graduates include: the armed forces, NHS, health and fitness industry, research centres and academic institutions and medical device and pharmaceutical companies.
- Examples of non-science related careers are market research or analysis, retail or operation management and public or private administration.
- On graduation, you can either continue your studies at postgraduate level by taking a diploma, Master's degree or PhD.

#### 16. Particular support for learning

- Learning resources at Hendon campus and online (such as library services, numeracy support, and academic writing, wellbeing, dyslexia support).
- Specialist laboratory facilities available on site to learn and develop practical skills.
- Online support for all modules in the programme available on MyLearning.
- Academic Advisors Scheme serves as an enhancement for all students, ensuring that every undergraduate (UG) student is assigned a dedicated academic advisor during the academic year, encompassing consistent elements, such as needs and resource limitations, aimed at improving student outcomes.

#### 17. HECos code(s)

100258

#### 18. Relevant QAA subject benchmark(s)

Biomedical Science and Biomedical Sciences (2023)

#### 19. Reference points

The following reference points were used in designing the Programme:

**External Documentation:**

Quality Assurance Agency (2023) *Subject Benchmark Statements for Biomedical Science and Biomedical Sciences*. QAA

**Internal documentation:**

Middlesex University *Middlesex University Regulations*. MU.  
Middlesex University *2031 Learning Framework*. MU.

#### 20. Other information

N/A

Please note programme specifications provide a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve if they take full advantage of the learning opportunities that are provided. More detailed information about the programme can be found in the rest of your programme handbook and the university regulations.

## 21. Curriculum map for BSc (Hons) Medical Physiology

This section shows the highest level at which programme outcomes are to be achieved by all graduates, and maps programme learning outcomes against the modules in which they are assessed.

### Programme learning outcomes

<b>Knowledge and understanding</b>	
A1	How the human body adapts or responds to environmental stressors
A2	The causes of and pathophysiology of diseases of the cardiovascular, respiratory, musculoskeletal and the nervous systems and the treatment of human disease
A3	How data are recorded, securely stored and analysed
A4	Techniques used to monitor and assess the function of the respiratory and cardiovascular systems to determine health status or evaluate human performance
A5	Techniques used to monitor and assess the function of the musculoskeletal and the nervous systems to determine health status or evaluate human performance
A6	The importance of research in the advancement of scientific knowledge and evidence-based practice
A7	Normal and abnormal biological processes.
<b>Skills</b>	
B1	Generate, analyse and critically evaluate research evidence and data using the most appropriate technology
B2	Work collaboratively to solve physiological problems
B3	Reflect on own learning and practice to develop personally and professionally
B4	Present information in the most effective format to communicate ideas clearly
B5	Design and carry out a research project
B6	Perform a wide range of physiological techniques and procedures to assess human performance or health status
B7	Communicate their ideas or information effectively to both scientific and non-scientific audiences using a variety of media
B8	Formulate learning and career development plans
B9	Use a range of information technologies
B10	Demonstrate a high level of numeracy and problem-solving skills



Programme outcomes																
A1	A2	A3	A4	A5	A6	A7	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
Highest level achieved by all graduates																
6	5	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6

Module Title	Module Code by Level	A1	A2	A3	A5	A5	A6	A7	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
Cell Sciences and Genetics	BIO1557	x	x							x								
Human Sciences	BMS1514	x																
Laboratory and Professional Skills	BMS1565						x		x	x	x	x	x		x	x	x	x
Biomolecular Science	BMS1555							x				x						
Research Methods and Science Innovation	BMS2586						x		x		x	x	x		x	x	x	x
Medical Instrumentation and Imaging	BMS2665			x										x	x		x	x
Neurophysiology	BMS2955			x		x		x						x				
Cardiopulmonary Science	BMS2895	x	x	x	x					x		x		x				
Neurophysiological Assessment	BMS3996		x	x		x		x				x		x				
Human Performance Assessment	BMS3866	x		x	x	x				x		x		x			x	
Cardiopulmonary Exercise Testing	BMS3886	x		x	x							x		x				
Dissertation and Professional Development	BMS3506						x		x	x	x	x	x		x	x	x	x