Programme Specification for
MSc Cardiac Ultrasound

1. Programme title

MSc/PgDip/PgCert Cardiac Ultrasound

2. Awarding institution

Middlesex University

3. Teaching institution

Middlesex University

4. Details of accreditation by professional/statutory/regulatory body

MSc/PgDip/PgCert Cardiac Ultrasound

5. Final qualification

MSc/PgDip/PgCert Cardiac Ultrasound

6. Year of validation

Year of amendment

7. Language of study

English

8. Mode of study

Full-time and Part-time

9. Criteria for admission to the programme

i. A good honours degree (minimum 2.ii) or equivalent qualification, in a health or science-based subject; applicant must normally be a cardiac physiologist. Applications from other healthcare professionals (e.g. registered nurses, and medical practitioners) are also welcomed.

ii. Applicants with other qualifications and / or substantial work experience in cardiac physiology will also be considered under the Accreditation of Prior Experiential Learning (APEL) scheme. Past learning or experience will be mapped against existing programme modules within the programme and the mapping will be considered at the accreditation board.

iii. Overseas Candidates should also be competent in English and have achieved, as a minimum, as examples, one of the following standards: IELTS-7.0; TOEFL (IBT) – 87.

iv. Applicants with a disability can enter the programme following assessment to determine if they can work safely in the laboratory. The programme team have experience of adapting teaching provision to accommodate a range of disabilities and welcome applications from students with disabilities.

v. Only applicants, who are have secured in the UK a relevant placement or employed in a department or service which is prepared and able to provide the clinical training, would be considered for the pathway, which includes the work-based learning module, BMS4097. All other applicants would be considered for other pathway, which includes theory-based module, BMS4077.

10. Aims of the programme

The programmes aim to prepare students for careers in academia, working in a cardiac physiology department or medical equipment sales.

The PgCert aims to:

• Equip students with a mastery of the fundamental principles and recent advances in cardiac ultrasound.

• Give students a thorough grounding in the fundamental mechanisms underpinning the major pathological processes.

• Provide students with sufficiently detailed information about the modern technologies used in diagnostics and research to enable them to solve complex problem related to disease investigation.

• Allow students to develop mastery of communication, teamwork, writing and presentation.
The PgDip/MSc aims to:

- Equip students with a mastery of the fundamental principles and recent advances in cardiac ultrasound.
- Give students a thorough grounding in the fundamental mechanisms underpinning the major pathological processes.
- Provide students with sufficiently detailed information about the modern technologies used in diagnostics and research to enable them to solve complex problem related to disease investigation.
- Enable students to understand and apply the principles of leadership and management, health and safety, quality control, research and statistical methods in their professional lives.
- Enable students to critically evaluate legal requirements for human experiments and ethical issues relating to research with human subjects and human tissue.
- Provide students with the tools to acquire the essential facts, concepts, principles and theories relevant to their chosen research project.
- Give students the ability to critically evaluate current research literature in cardiac physiology, and an acquisition of the skills for lifelong learning.
- Allow students to develop mastery of communication, teamwork, writing and presentation.

In addition, on completion of the MSc the successful student will:

- Have acquired the design, critical analysis and practical skills necessary to carry out an individualised experimental research project.
- Have developed the skills to evaluate literature in the context of their current research and propose new hypotheses relevant to their research.

### 11. Programme outcomes

#### A. Knowledge and understanding

On completion of this programme the successful student will have acquired mastery of:

**PgCert/PgDip/MSc**

1. The anatomy, physiology and aetiology and pathology of common diseases related to cardiac ultrasound
2. Ethical and legal issues in cardiac physiology
3. Equipment, advanced diagnostic techniques and therapeutic interventions used in cardiac physiology

**PgDip/MSc**

4. Research methods
5. Clinical leadership and management

#### Teaching/learning methods

Students gain knowledge and understanding through lectures, seminars and laboratory work, self study (both directed and self-directed) and online learning.

#### Assessment Method

Students' knowledge and understanding is assessed by both summative and formative assessments, which include seminar presentations, written assignments including laboratory reports, seen practical and theory examinations.

#### B. Cognitive (thinking) skills

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

**PgCert/PgDip/MSc**

1. Develop ideas through the evaluation of appropriate literature, concepts and principles
2. Present, analyse and critically

#### Teaching/learning methods

Students learn cognitive skills through analysis of research literature and undertaking a research project that they have designed themselves, including consideration of the inherent ethical and health and safety implications.
<table>
<thead>
<tr>
<th><strong>Evaluate physiological data</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Critically assess health risk factors associated with working in a research or clinical setting</td>
</tr>
</tbody>
</table>

**PgDip/MSc**

4. Design a research project
5. Debate ethical and legal issues in cardiac physiology
6. Develop a research project

**MSc**

7. Propose new hypotheses relevant to discipline
8. Critically evaluate their research findings in the context of the literature research

---

### C. Practical skills

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

**PgCert/PgDip/MSc**

1. Competently perform advanced diagnostic or therapeutic procedures in accordance with health and safety guidelines
2. Recognise and respond to moral, ethical and safety issues, which directly pertain to cardiac physiology
3. Correctly perform calibration, safety testing, quality control and assurance procedures relating to physiological science services

**MSc**

4. Carry out experimental research

---

### D. Professional Skills

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

**PgCert/PgDip/MSc**

1. Demonstrate effective communication and presentation skills
2. Demonstrate leadership and managerial skills
3. Demonstrate competence in the use of information technology
4. Demonstrate numeracy and problem solving skills at a high level

**MSc**

5. Manage a research project and demonstrate a high level of research skills

---

### Assessment Method

**Students' cognitive skills are assessed by written work, examinations, presentations and a research project.**

---

**Teaching/learning methods**

Students learn practical skills through laboratory practical classes, and undertaking a research project.

**Assessment Method**

Students' practical skills are assessed by laboratory reports and dissertation.

---

### Teaching/learning methods

Students acquire graduate skills through lectures, seminars, practical laboratory work, literature searches, peer presentations, videos and online presentations, research project

**Assessment method**

Students' graduate skills are assessed by presentations, self-assessment and project work.

---

3
### 12. Programme structure (levels, modules, credits and progression requirements)

#### 12.1 Overall structure of the programme

- All programmes can be studied over either one-year full time or normally two years part time.
- For a PgCert in Cardiac Ultrasound, full-time students will need to pass the three specialist modules in cardiac ultrasound including the clinical practice module. Part-time students are required to pass 30 credits per year.
- Full-time PgDip and MSc students will take the four core modules and the three specialist modules. In addition, the MSc students will complete a 60-credits project module during the summer term. Students cannot start their research projects until they have passed all taught modules.
- Part-time PgDip and MSc students will be expected to pass 60 credits of taught modules each year. MSc students will undertake a research project during summer term of the second year.
- The total number of credits required for an award is: 60 credits for a PgCert; 120 for the PgDip; and 180 for the MSc.
### 12.2 Levels and modules

<table>
<thead>
<tr>
<th>Level 7</th>
<th>COMPULSORY</th>
<th>OPTIONAL</th>
<th>PROGRESSION REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All students must complete the 4 modules that form one of the specialisms in order to gain the PgCert Cardiac Ultrasound: BMS4057 BMS4087 BMS4097</td>
<td>None</td>
<td>Successful completion of all modules to achieve the award</td>
</tr>
<tr>
<td></td>
<td>All students must complete the following for the PgDip in Cardiac Ultrasound: BMS4057 BMS4087 BMS4677 BMS4777 BMS4887 BMS4957</td>
<td>Either BMS4077 Or BMS4097</td>
<td>Successful completion of all modules to achieve the award</td>
</tr>
<tr>
<td></td>
<td>All students must complete the following for the MSc in Cardiac Ultrasound: BMS4057 BMS4087 BMS4677 BMS4777 BMS4887 BMS4957 BMS4997</td>
<td>Either BMS4077 Or BMS4097</td>
<td>Successful completion of all modules to achieve the award</td>
</tr>
</tbody>
</table>

### 12.3 Non-compensatable modules (note statement in 12.2 regarding FHEQ levels)

<table>
<thead>
<tr>
<th>Module level</th>
<th>Module code</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>All modules</td>
</tr>
</tbody>
</table>

### 13. A curriculum map relating learning outcomes to modules

See Curriculum Map attached.

### 14. Information about assessment regulations

The assessment regulations are the general university regulations.

### 15. Placement opportunities, requirements and support

Not-applicable

### 16. Future careers

A qualification at master’s level is increasingly becoming a requirement for progression via a PhD into a research career. A master’s degree is also an important means for health care professionals to develop the skills necessary to progress from practitioner to highly specialist practitioner.
17. Particular support for learning (if applicable)

We have specialist laboratory facilities for the development of practical skills. Middlesex University Library will provide access to specialist journals. For ease of access for students based at Hendon, the library has facilities for inter-library photocopying of any articles required. Other articles may be obtained from the British Library in London where a similar arrangement for photocopying articles exists. A student may undertake a research project at their workplace where relevant and possible.

Applicants with a disability can enter the programme following an assessment of their needs, and to determine if they can work safely in the laboratory. The programme team have experience of adapting the programme to accommodate a range of disabilities in students on the cardiac physiology programmes and welcome applications from such students.

Learning resource services and facilities at Middlesex include a CAL suite and internet access as well as English learning and Language Support.

Learning resources and other support for modules is delivered via myUniHub.

<table>
<thead>
<tr>
<th>18. JACS code (or other relevant coding system)</th>
<th>Cardiology B810</th>
</tr>
</thead>
<tbody>
<tr>
<td>19. Relevant QAA subject benchmark group(s)</td>
<td></td>
</tr>
</tbody>
</table>
**20. Reference points**

The following reference points were used in designing the Programme:

**Internal documentation:**

**External Documentation:**

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 s/he takes full advantage of the learning opportunities that are provided. More detailed information about the programme can be found in the student programme handbook and the University Regulations.
1. Programme title | MSc/PgDip/PgCert Cardiac Rhythm Management and Electrophysiology
2. Awarding institution | Middlesex University
3. Teaching institution | Middlesex University
4. Programme accredited by | Middlesex University
5. Final qualification | MSc/PgDip/PgCert Cardiac Rhythm Management and Electrophysiology
6. Academic year | 2017/2018
7. Language of study | English
8. Mode of study | Full-time and Part-time

9. Criteria for admission to the programme
   i. A good honours degree (minimum 2.ii) or equivalent qualification, in a health or science-based subject; applicant must normally be a cardiac physiologist. Applications from other healthcare professionals (e.g. registered nurses, and medical practitioners) are also welcomed.
   ii. Applicants with other qualifications and / or substantial work experience in cardiac physiology will also be considered under the Accreditation of Prior Experiential Learning (APEL) scheme. Past learning or experience will be mapped against existing programme modules within the programme and the mapping will be considered at the accreditation board.
   iii. Overseas Candidates should also be competent in English and have achieved, as a minimum, as examples, one of the following standards: IELTS-7.0; TOEFL (IBT) – 87.
   iv. Applicants with a disability can enter the programme following assessment to determine if they can work safely in the laboratory. The programme team have experience of adapting teaching provision to accommodate a range of disabilities and welcome applications from students with disabilities.
   v. Only applicants, who are have secured in the UK a relevant placement or employed in a department or service which is prepared and able to provide the clinical training, would be considered for the pathway, which includes the work-based learning module, BMS4097. All other applicants would be considered for other pathway, which includes theory-based module, BMS4077.

10. Aims of the programme
    The programme aims to prepare students for careers in academia, working in a cardiac physiology department or medical equipment sales. The PgCert aims to:
    • Equip students with a mastery of the fundamental principles and recent advances in electrophysiology and cardiac rhythm management.
    • Give students a thorough grounding in the fundamental mechanisms underpinning the major pathological processes.
    • Provide students with sufficiently detailed information about the modern technologies used in diagnostics and research to enable them to solve complex problems related to disease investigation.
    • Allow students to develop mastery of communication, teamwork, writing and presentation.
The PgDip/MSc aims to:

- Equip students with a mastery of the fundamental principles and recent advances in electrophysiology and cardiac rhythm management.
- Give students a thorough grounding in the fundamental mechanisms underpinning the major pathological processes.
- Provide students with sufficiently detailed information about the modern technologies used in diagnostics and research to enable them to solve complex problems related to disease investigation.
- Enable students to understand and apply the principles of leadership and management, health and safety, quality control, research and statistical methods in their professional lives.
- Enable students to critically evaluate legal requirements for human experiments and ethical issues relating to research with human subjects and human tissue.
- Provide students with the tools to acquire the essential facts, concepts, principles and theories relevant to their chosen research project.
- Give students the ability to critically evaluate current research literature in cardiac physiology and an acquisition of the skills for lifelong learning.
- Allow students to develop mastery of communication, teamwork, writing and presentation.

In addition, on completion of the MSc the successful student will:

- Have acquired the design, critical analysis and practical skills necessary to carry out an individualised experimental research project.
- Have developed the skills to evaluate literature in the context of their current research and propose new hypotheses relevant to their research.

### 11. Programme outcomes

#### A. Knowledge and understanding

On completion of this programme the successful student will have acquired mastery of:

**PgCert/PgDip/MSc**

1. The anatomy, physiology and aetiology and pathology of common diseases related to cardiac ultrasound
2. Ethical and legal issues in cardiac physiology
3. Equipment, advanced diagnostic techniques and therapeutic interventions used in cardiac physiology.

**PgDip/MSc**

4. Research methods
5. Clinical leadership and management

#### Teaching/learning methods

Students gain knowledge and understanding through lectures, seminars and laboratory work, self study (both directed and self-directed) and online learning.

#### Assessment Method

Students’ knowledge and understanding is assessed by both summative and formative assessments, which include seminar presentations, written assignments including laboratory reports, seen practical and theory examinations.

#### B. Cognitive (thinking) skills

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

**PgCert/PgDip/MSc**

1. Develop ideas through the evaluation of appropriate literature, concepts and principles

#### Teaching/learning methods

Students learn cognitive skills through analysis of research literature and undertaking a research project that they have designed themselves, including consideration of the inherent ethical and health and safety implications.
2. Present, analyse and critically evaluate physiological data
3. Critically assess health risk factors associated with working in a research or clinical setting

**PgDip/MSc**
4. Design a research project
5. Debate ethical and legal issues in cardiac physiology
6. Develop a research project

**MSc**
7. Propose new hypotheses relevant to discipline
8. Critically evaluate their research findings in the context of the literature research

### Assessment Method

Students' cognitive skills are assessed by written work, examinations, presentations and a research project.

### C. Practical skills

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

**PgCert/PgDip/MSc**
1. Competently perform advanced diagnostic or therapeutic procedures in accordance with health and safety guidelines
2. Recognise and respond to moral, ethical and safety issues, which directly pertain to cardiac physiology
3. Correctly perform calibration, safety testing, quality control and assurance procedures relating to physiological science services

**MSc**
4. Carry out experimental research

### Teaching/learning methods

Students learn practical skills through laboratory practical classes, and undertaking a research project.

### Assessment Method

Students' practical skills are assessed by laboratory reports and dissertation.

### D. Professional Skills

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

**PgCert/PgDip/MSc**
1. Demonstrate effective communication and presentation skills
2. Demonstrate leadership and managerial skills
3. Demonstrate competence in the use of information technology
4. Demonstrate numeracy and problem solving skills at a high level

**MSc**
5. Manage a research project and demonstrate a high level of research skills

### Teaching/learning methods

Students acquire graduate skills through lectures, seminars, practical laboratory work, literature searches, peer presentations, videos and online presentations, research project

### Assessment method

Students’ graduate skills are assessed by presentations, self-assessment and project work.
12. Programme structure (levels, modules, credits and progression requirements)

12.1 Overall structure of the programme

- All programmes can be studied over either one-year full time or normally two years part time.
- For a PgCert Cardiac Rhythm Management and Electrophysiology, full-time students will need to pass the three specialist modules including the clinical practice module. Part-time students are required to pass 30 credits per year.
- Full-time PgDip and MSc students will take the four core modules and the three specialist modules. In addition, the MSc students will complete a 60-credits project module during the summer term. Students cannot start their research projects until they have passed all taught modules.
- Part-time PgDip and MSc students will be expected to pass 60 credits of taught modules each year. MSc students will undertake a research project during summer term of the second year.
- The total number of credits required for an award is: 60 credits for a PgCert; 120 for the PgDip; and 180 for the MSc.
12.2 Levels and modules

<table>
<thead>
<tr>
<th>Level 7</th>
<th>COMPULSORY</th>
<th>OPTIONAL</th>
<th>PROGRESSION REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All students must complete the 3 modules that form one of the specialisms in order to gain the PgCert in Cardiac Rhythm Management and Electrophysiology: BMS4007 BMS4067 BMS4097</td>
<td>None</td>
<td>Successful completion of all modules to achieve the award</td>
</tr>
<tr>
<td></td>
<td>All students must complete the following for the PgDip in Cardiac Rhythm Management and Electrophysiology: BMS4007 BMS4067 BMS4097 BMS4677 BMS4777 BMS4887 BMS4957</td>
<td>Either BMS4077 Or BMS4097</td>
<td>Successful completion of all modules to achieve the award</td>
</tr>
<tr>
<td></td>
<td>All students must complete the following for the MSc in Cardiac Rhythm Management and Electrophysiology: BMS4007 BMS4067 BMS4097 BMS4677 BMS4777 BMS4887 BMS4957 BMS4997</td>
<td>Either BMS4077 Or BMS4097</td>
<td>Successful completion of all modules to achieve the award</td>
</tr>
</tbody>
</table>

12.3 Non-compensatable modules (note statement in 12.2 regarding FHEQ levels)

<table>
<thead>
<tr>
<th>Module level</th>
<th>Module code</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>All modules</td>
</tr>
</tbody>
</table>

13. A curriculum map relating learning outcomes to modules

See Curriculum Map attached.

14. Information about assessment regulations

The assessment regulations are the general university regulations.

15. Placement opportunities, requirements and support

Not-applicable
16. Future careers
A qualification at master’s level is increasingly becoming a requirement for progression via a PhD into a research career. A master’s degree is also an important means for health care professionals to develop the skills necessary to progress from practitioner to highly specialist practitioner.

17. Particular support for learning (if applicable)
We have specialist laboratory facilities for the development of practical skills. Middlesex University Library will provide access to specialist journals. For ease of access for students based at Hendon, the library has facilities for inter-library photocopying of any articles required. Other articles may be obtained from the British Library in London where a similar arrangement for photocopying articles exists. A student may undertake a research project at their workplace where relevant and possible.

Applicants with a disability can enter the programme following an assessment of their needs, and to determine if they can work safely in the laboratory. The programme team have experience of adapting the programme to accommodate a range of disabilities in students on the cardiac physiology programmes and welcome applications from such students.

Learning resource services and facilities at Middlesex include a CAL suite and internet access as well as English learning and Language Support. Learning resources and other support for modules is delivered via myUniHub.

18. JACS code (or other relevant coding system)
Cardiology
B810

19. Relevant QAA subject benchmark group(s)

20. Reference points
The following reference points were used in designing the Programme:

**Internal documentation:**

**External Documentation:**

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 s/he takes full advantage of the learning opportunities that are provided. More detailed information about the programme can be found in the student programme handbook and the University Regulations.
## Curriculum map for MSc Cardiac Ultrasound

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

<table>
<thead>
<tr>
<th>Knowledge and understanding</th>
<th>Practical skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1 The anatomy, physiology and aetiology and pathology of common diseases related to cardiac ultrasound</td>
<td>C1 Competently perform advanced diagnostic or therapeutic procedures in accordance with health and safety guidelines</td>
</tr>
<tr>
<td>A2 Ethical and legal issues in cardiac physiology</td>
<td>C2 Recognise and respond to moral, ethical and safety issues, which directly pertain to the cardiac physiology</td>
</tr>
<tr>
<td>A3 Equipment, advanced diagnostic techniques and therapeutic interventions used in cardiac physiology</td>
<td>C3 Correctly perform calibration, safety testing, quality control and assurance procedures relating to physiological science services</td>
</tr>
<tr>
<td>A4 Research methods</td>
<td>C4 Carry out research experiments</td>
</tr>
<tr>
<td>A5 Clinical leadership and management</td>
<td></td>
</tr>
<tr>
<td>Cognitive skills</td>
<td>Professional skills</td>
</tr>
<tr>
<td>B1 Develop ideas through the evaluation of appropriate literature, concepts and principles</td>
<td>D1 Demonstrate effective communication and presentation skills</td>
</tr>
<tr>
<td>B2 Present, analyse and critically evaluate physiological data</td>
<td>D2 Demonstrate leadership and managerial skills</td>
</tr>
<tr>
<td>B3 Critically assess health risk factors associated with working in a research or clinical setting</td>
<td>D3 Demonstrate competence in the use of information technology</td>
</tr>
<tr>
<td>B4 Design a research project</td>
<td>D4 Demonstrate a high level of numeracy and problem solving skills</td>
</tr>
<tr>
<td>B5 Debate ethical and legal issues in cardiac physiology</td>
<td>D5 Manage a research project and demonstrate a high level of research skills</td>
</tr>
<tr>
<td>B6 Develop a research project</td>
<td></td>
</tr>
<tr>
<td>B7 Propose new hypotheses relevant to discipline</td>
<td></td>
</tr>
<tr>
<td>B8 Critically evaluate research findings in the context of the literature research</td>
<td></td>
</tr>
</tbody>
</table>
## Curriculum map for MSc Cardiac Rhythm Management and Electrophysiology

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

<table>
<thead>
<tr>
<th>Knowledge and understanding</th>
<th>Practical skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1 The aetiology and pathology of common diseases related to electrophysiology and cardiac</td>
<td>C1 Competently perform advanced diagnostic or therapeutic procedures in accordance</td>
</tr>
<tr>
<td>rhythm management</td>
<td>with health and safety guidelines</td>
</tr>
<tr>
<td>A2 Ethical and legal issues in cardiac physiology</td>
<td>C2 Recognise and respond to moral, ethical and safety issues, which directly pertain</td>
</tr>
<tr>
<td>A3 Equipment, advanced diagnostic techniques and therapeutic interventions used in</td>
<td>direct to electrophysiology and cardiac rhythm management</td>
</tr>
<tr>
<td>cardiac physiology</td>
<td></td>
</tr>
<tr>
<td>A4 Research methods</td>
<td>C3 Correctly perform calibration, safety testing, quality control and assurance</td>
</tr>
<tr>
<td>A5 Clinical leadership and management</td>
<td>procedures relating to electrophysiology and cardiac rhythm management</td>
</tr>
<tr>
<td>Cognitive skills</td>
<td></td>
</tr>
<tr>
<td>B1 Develop ideas through the evaluation of appropriate literature, concepts and principles</td>
<td>D1 Demonstrate effective communication and presentation skills</td>
</tr>
<tr>
<td>B2 Present, analyse and critically evaluate physiological data</td>
<td>D2 Demonstrate leadership and managerial skills</td>
</tr>
<tr>
<td>B3 Critically assess health risk factors associated with working in a research or clinical</td>
<td>D3 Demonstrate competence in the use of information technology</td>
</tr>
<tr>
<td>setting</td>
<td></td>
</tr>
<tr>
<td>B4 Design a research project</td>
<td>D4 Demonstrate a high level of numeracy and problem solving skills</td>
</tr>
<tr>
<td>B5 Debate ethical and legal issues in cardiac physiology</td>
<td>D5 Manage a research project and demonstrate a high level of research skills</td>
</tr>
<tr>
<td>B6 Develop a research project</td>
<td></td>
</tr>
<tr>
<td>B7 Propose new hypotheses relevant to discipline</td>
<td></td>
</tr>
<tr>
<td>B8 Critically evaluate research findings in the context of the literature research</td>
<td></td>
</tr>
</tbody>
</table>
### PgCert

#### Programme outcomes

|   | A1 | A2 | A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | B8 | C1 | C2 | C3 | C4 | D1 | D2 | D3 | D4 | D5 |
|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 7 | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 7  |

#### Highest level achieved by all graduates

### Module Title | Module Code by Level | Programme outcomes
---|---------------------|---------------------
Cardiac Ultrasound Theory | BMS4057 | X X X X X X X X
Cardiac Ultrasound Practice | BMS4087 | X X X X X X X X
Clinical Practice | BMS4097 | X X X X X X X X
Advanced Clinical Skills | BMS4077 | X X X X X X X X

### PgCert Cardiac Rhythm Management and Electrophysiology

#### Module Title | Module Code by Level | Programme outcomes
---|---------------------|---------------------
Clinical Electrophysiology | BMS4067 | X X X X X X
Cardiac Rhythm Management | BMS4007 | X X X X X X X X
Clinical Practice | BMS4097 | X X X X X X X X
Advanced Clinical Skills | BMS4077 | X X X X X X X X

---

16
## PgDip/MSc Cardiac Ultrasound

### Programme outcomes

<table>
<thead>
<tr>
<th>Module Title</th>
<th>Module Code</th>
<th>Programme outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership and Management</td>
<td>BMS4677</td>
<td>A1</td>
</tr>
<tr>
<td>Biomedical Ethics and Law</td>
<td>BMS4777</td>
<td>X</td>
</tr>
<tr>
<td>Experimental Design and Statistics</td>
<td>BMS4887</td>
<td>X</td>
</tr>
<tr>
<td>Research Project</td>
<td>BMS4997</td>
<td>X</td>
</tr>
<tr>
<td>Advanced Signal Processing</td>
<td>BMS4957</td>
<td>X</td>
</tr>
<tr>
<td>Cardiac Ultrasound Theory</td>
<td>BMS4057</td>
<td>X</td>
</tr>
<tr>
<td>Cardiac Ultrasound Practice</td>
<td>BMS4087</td>
<td>X</td>
</tr>
<tr>
<td>Clinical Practice</td>
<td>BMS4097</td>
<td>X</td>
</tr>
<tr>
<td>Advanced Clinical Skills</td>
<td>BMS4077</td>
<td>X</td>
</tr>
</tbody>
</table>
### Programme outcomes

<table>
<thead>
<tr>
<th>Module Title</th>
<th>Module Code</th>
<th>Programme outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laboratory Leadership and Management</td>
<td>BMS4667</td>
<td>A1 A2 A3 A4 A5 B1 B2 B3 B4 B5 B6 B7 B8 C1 C2 C3 C4 D1 D2 D3 D4 D5</td>
</tr>
<tr>
<td>Biomedical Ethics and Law</td>
<td>BMS4777</td>
<td>X X X X X X X X X X</td>
</tr>
<tr>
<td>Experimental Design and Statistics</td>
<td>BMS4887</td>
<td>X X X X X X X X X X</td>
</tr>
<tr>
<td>Research Project</td>
<td>BMS4997</td>
<td>X X X X X X X X X X</td>
</tr>
<tr>
<td>Advanced Signal Processing</td>
<td>BMS4957</td>
<td>X X X X X X X X X X</td>
</tr>
<tr>
<td>Clinical Electrophysiology</td>
<td>BMS4067</td>
<td>X X X X X X X X X X</td>
</tr>
<tr>
<td>Cardiac Rhythm Management</td>
<td>BMS4007</td>
<td>X X X X X X X X X X</td>
</tr>
<tr>
<td>Clinical Practice</td>
<td>BMS4097</td>
<td>X X X X X X X X X X</td>
</tr>
<tr>
<td>Advanced Clinical Skills</td>
<td>BMS4077</td>
<td>X X X X X X X X X X</td>
</tr>
</tbody>
</table>

Highest level achieved by all graduates:
7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7