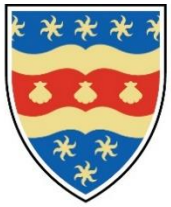

UNIVERSITY OF PLYMOUTH

Faculty of Health

School of Biomedical Sciences

Programme Specification

PgCert Clinical Echocardiography

2025/26 Academic Year

Date Approved From: 10th August 2022
Date of Implementation: 2022
Date of First Award: 2023

Internal Programme Code	Award Title	Site	Mode of Study
7532	PgCert Clinical Echocardiography	Plymouth	Part-Time

Reviewed	Amended following review (Y/N)	Sections amended

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1. **PgCert**

Final award title: PgCert Clinical Echocardiography

HECOS code: 101330 (Ultrasound)

2. **Awarding Institution:** University of Plymouth

Teaching institution(s): University of Plymouth

3. **Accrediting body(ies)**

- The programme aims to provide the grounding for students to go onto apply for British Society of Echocardiography (BSE) accreditation 6-12 months after graduating with appropriate practical experience (Please note accreditation fees apply). This programme does not provide BSE accreditation and successful completion of the programme does not lead to eligibility to apply for BSE accreditation.

4. **Distinctive Features of the Programme and the Student Experience**

- Echocardiography programme integrating the clinically-focused subject area within diagnostic services. Programme is delivered by specialist academic and echocardiography associates including consultants. Programme development will be informed by patients, carers and lay associates.
- Students will study within the specialist areas of Echocardiography imaging as well as maintaining academic breadth and depth of knowledge in this discipline.
- A coherent, progressive curriculum ensuring competence in core knowledge, personal and practical skills designed to enhance the students' clinical competence and professional development.
- Enthusiastic, accessible and committed academic and clinical staff that offer student support via personal tutoring throughout their programme of study.
- Teaching and Learning informed by nationally recognised scholarship and professional expertise in clinical echocardiography.

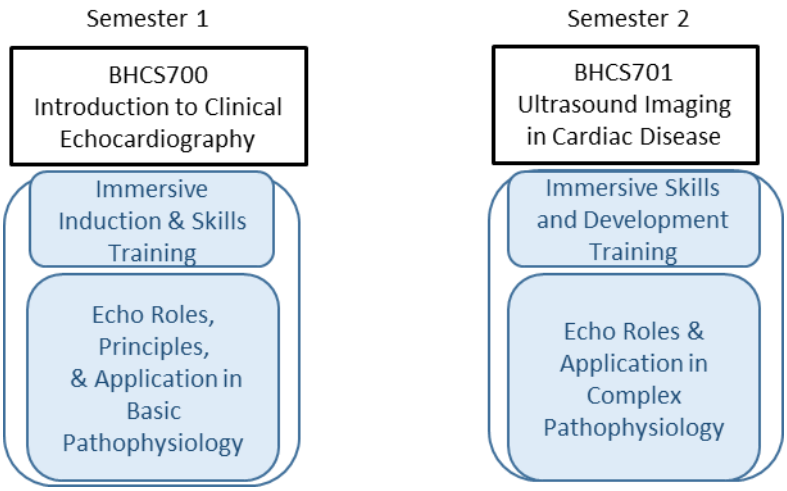
- Supporting learner development in clinical skills and interpretation within the simulated based learning environment.

5. Relevant QAA Subject Benchmark Group(s)

Whilst, there are no Subject Benchmarks for postgraduate awards in Clinical Echocardiography, consideration has been made of the Quality Assurance Agency (QAA) benchmark statements for medicine and the specialty training curriculum for cardiology. Awareness is present that this is a Level 7 programme.

6. Programme Structure

This is a 1 year programme comprising 2 core modules, BHCS700 Introduction to Clinical Echocardiography (30 credits) and BHCS701 Ultrasound Imaging in Cardiac Disease (30 credits). BHCS700 Introduction to Clinical Echocardiography will be taken in the first semester and BHCS701 Ultrasound Imaging in Cardiac Disease in the second semester. In brief each module and semester begins with a 2-week immersive period. Thereafter students will spend 1 day in formal learning and 4 days in practise on the job. An outline of the PgCert Clinical Echocardiography programme is provided in the Figure below:



7. Programme Aims

Educational aims of the PgCert Clinical Echocardiography

To provide students with:

- advanced knowledge, understanding and skills required for the systematic study of their chosen discipline of echocardiography through the application of contemporary methodologies and technologies
- The grounding to go onto apply for BSE accreditation 6-12 months after graduating with appropriate practical experience (Please note accreditation fees apply). This programme does not provide BSE accreditation and successful completion of the programme does not lead to eligibility to apply for BSE accreditation.
- ability to analyse complex situations and apply critical, analytical and problem-solving skills to synthesise innovative responses in unpredictable environments
- advanced skills in information gathering, interpretation, critical analysis and evaluation and the formulation of recommendations in a professional scientific context;
- equip students with advanced clinical, scientific and technical knowledge and understanding of the subject area together with the cognitive, practical and specialist skills needed in employment.
- professional communication and interpersonal skills;
- skills of planning and management of learning which will enable their continual professional development after the completion of the course.
- further develop students' ability to operate professionally, ethically, innovatively and autonomously within complex specialised contexts in echocardiography.

8. Programme Intended Learning Outcomes

8.1 Knowledge and understanding

On successful completion graduates should have developed:

1) A critical understanding of the normal anatomy of the heart in relation to the thorax, cardiac embryology and pathophysiology related to the heart and its valves
2) A critical understanding of ultrasound, propagation through tissue, ultrasound transducers and instrumentation optimisation

3) A critical understanding of physics related to echocardiography including 2 dimensional (2D) and 3 dimensional (3D) imaging
4) A critical understanding of deformation analysis and contrast studies
5) A critical understanding of Doppler, colour flow physics, instrumentation and application
6) A critical understanding of the place of echocardiography in medicine and its place in the emergency department and Intensive Care Unit

8.2. Cognitive and intellectual skills

On successful completion graduates should have developed:

1) **Analysis:** with critical awareness can undertake analysis of complex, incomplete or contradictory areas of knowledge in echocardiography communicating the outcome effectively
2) **Synthesis:** with critical awareness, can synthesise information in a manner that may be innovative, utilising knowledge or processes from the forefront of their echocardiography discipline/practice
3) **Evaluation**: has a level of conceptual understanding that will allow her/him critically to evaluate research, advanced scholarship and methodologies in echocardiography and argue alternative approaches
4) **Application:** can demonstrate initiative and originality in problem solving in echocardiography. Can act autonomously in planning and implementing tasks at a professional or equivalent level, making decisions in complex and unpredictable situations

8.3. Key and transferable skills

On successful completion graduates should have developed the following abilities:

1) **Learning resources:** are able to use full range of learning resources applicable to echocardiography
2) **Autonomy:** an independent and self-critical learner of echocardiography, guiding the learning of others and managing own requirements for continuing professional development
3) **Communications:** can engage confidently in academic, professional and patient communication with others involved in echocardiography, creating accurate, well written reports, autonomously and competently

8.4. Employment related skills

On successful completion graduates should have developed:

1) **Self-evaluation:** reflective on their own functioning and have the independent learning ability required for continuing professional development in echocardiography
2) **Clinical Skills:** competence in completion of echocardiographic imaging and interpretation, quality and compliance within medical imaging
3) **Autonomy:** ability to work within limits and scope of the field of expertise and seek advice from peers and colleagues when necessary. Respect the rights, dignity and confidentiality of patients / patient details in context of professional conduct

8.5. Practical skills

On successful completion graduates should have developed the skills to:

1) investigate the normal anatomy of the heart using echocardiography and cardiac functional parameters including using 2D, 3D, colour flow, Doppler, contrast and bubble echocardiography
2) diagnose and report cardiac functional parameters including using contrast echocardiography
3) diagnose and report cardiac structural disease using echocardiography including some simple / single lesion congenital abnormalities
4) diagnose and report cardiac functional disease using echocardiography
5) report echocardiographic findings for common clinical presentations
6) perform echocardiography in different settings (e.g. Emergency Department (ED) and Intensive Care Unit (ICU))

9. Admissions Criteria, including RPL and Disability Service arrangements

9.1 Qualifications / Experience

All applicants must have GCSE (or equivalent) Maths and English at Grade C/4 or above.

Applicants should have an honours degree (1st or 2.1) in Cardiac Physiology (PTP) or relevant scientific subject in the UK or equivalent experience and appropriate underpinning knowledge and skills in cardiology. Applicants with overseas qualifications can check their comparability with the UK equivalent through Ecctis, who provide an advisory service.

Entry routes

The direct entry route

A direct entry route is open to anyone with an Honours degree (1st or 2.1) in Cardiac Physiology (PTP) or a relevant scientific subject or equivalent experience and appropriate underpinning knowledge and skills in cardiology. Applicants will need to have access to diagnostic Echocardiography equipment for training purposes. Please contact the Programme Lead for further information.

The in-service route

The in-service route is only open to staff working in a cardiac department (NHS or Private provider), who meet the qualification requirements and have been nominated by their employer. Your employer will apply for a post via the 'Expressions of Interest' survey and will be notified by the commissioners if successful. Your employer will need to evidence your suitability for the programme.
If you currently work in the NHS but do not have the in-service arrangements in place, you can apply to the Echocardiography Training Programme via the direct entry route.

All applicants can contact the Programme Lead or the admissions team for further information.

In addition

Where English is not a student's first language they are required to achieve an IELTS, or equivalent qualification, with an overall score of at least 6.5 with a minimum of 5.5 in all four components.

Students will need to have access to a personal computer with good internet access. The University of Plymouth recommended equipment specification can be found here: https://www.plymouth.ac.uk/student-life/new-students/it-equipment-specifications

Conducting medical diagnostic tests (e.g. performing an Echo) requires the highest standards and we take seriously our commitment to enrol, and teach, only those students with the integrity needed to meet these requirements. Detailed information relating to the Student Agreement, Fitness to Practise and students with disabilities can be found on the University of Plymouth website: https://www.plymouth.ac.uk/courses/undergraduate/bds-dental-surgery/student-conduct-and-fitness-to-practise.

Applicants external to the NHS will be required to complete the following:

- A new Enhanced Disclosure and Barring Service (DBS) Certificate
- An Overseas Declaration
- A Health Questionnaire to be screened by our Occupational Health Provider (who will also administer any vaccinations that maybe be outstanding)

Applicants with NHS contracts, who will have undertaken DBS and Occupational Health checks as part of their employment, will be required to complete a number of self-declaration forms and provide their DBS Certificate number for our records.

9.2 Equality of Opportunity

The University aims to ensure that all applicants receive fair treatment. In line with its Strategic Plan, the University has strategies to promote equality of opportunity, widen participation and encourage access.

Further information on equality for students can be found at:
https://www.plymouth.ac.uk/about-us/university-structure/service-areas/equality-diversity-and-inclusion/equality-diversity-and-inclusion-reports

We welcome and support students with disabilities, and we endeavour to meet specific needs. The Disability Services, based on the Plymouth Campus, supports disabled students across the University. Further information about the advice and support before, during and after application can be found at:
https://www.plymouth.ac.uk/about-us/university-structure/service-areas/equality-diversity-and-inclusion/disability-support

There may be rare occasions when, following professional assessment of a disability, a student's suitability for admission may be affected. However, we will take a positive view and will try to meet the needs of students with disabilities by making, where possible, reasonable adjustments to their programme of study.

9.3 RPL arrangements

The University's regulations for Recognition of Prior Learning (RPL), including both Accreditation of Prior Certificated Learning (APCL) and Accreditation of Prior Experiential Learning (APEL) are set out in the following link:
https://www.plymouth.ac.uk/student-life/your-studies/essential-information/regulations.

There may be an opportunity to RPL at the discretion of the Programme Team and applications will be considered on a case by case basis.

10. Progression routes/criteria for progression to Final and Intermediate Awards

In order to progress to the module BHCS701, students will have to have successfully completed the module BHCS700.

Students will be required to successfully complete both modules in order to graduate with the PgCert Clinical Echocardiography.

11. Non Standard Regulations

Normal University of Plymouth regulations in respect of progression and assessment are followed, with specific exceptions due to the professional nature of the programme, as noted below:

- Module pass criteria: Each element and component must be passed with a minimum pass mark of 50%.

12. Transitional Arrangements for existing students looking to progress onto the programme

There are no transitional arrangements.

13. Appendices

Programme Specification Mapping (PGT)

Programme Specification Mapping (PGT): module contribution to the meeting of Award Learning Outcomes
Tick those Award Learning Outcomes the module contributes to through its assessed learning outcomes. Insert rows and columns as required.

Module	**Credits**	**C** core **E** elective	Award Learning Outcomes contributed to (for more information see Section 8)																								Compensation Y/N	**Assessment element(s) and weightings** [use KIS definition] E1 - exam E2 - clinical exam T1 - test C1 - coursework A1 - generic assessment P1 - practical
			Knowledge & understanding						Cognitive & intellectual skills				Key & transferable skills				Employment related skills				Practical skills							
			1	2	3	4	5	6	1	2	3	4	1	2	3	-	1	2	3	-	1	2	3	4	5	6		
BHCS700	30	C	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X		X	X	X	X	X	X	N	E1, C1, P1
BHCS701	30	C	-	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X		X	X	X	X	X	X	N	E1, C1
Learning Outcomes 60 credits																												
Confirmed Award Los																												