



# **MSc ULTRASOUND FRAMEWORK**

## **MSc Medical Ultrasound Programme**

Programme of the  
Anglo-European College of Chiropractic  
validated by Bournemouth University

# **FRAMEWORK SPECIFICATION**

**Version 3.0**

**Document date: May 2013**

©2013 AECC/Bournemouth University

Circulation: General

Bournemouth University undertakes to encourage the recognition, protection and exploitation of intellectual property rights generated by participants in this programme, to the benefit, as appropriate, of students, staff, industrial/other third parties/partners and the university.

Anglo-European College of Chiropractic  
13-15 Parkwood Rd  
Bournemouth  
BH5 2DF

## CONTENTS

Basic Framework / Programme Data .....	4
Aims of the Document.....	6
Academic and Professional Context.....	6
Framework Aims.....	6
Programme Intended Learning Outcomes.....	7
Learning and Teaching Strategies and Methods .....	9
Assessment Strategies and Methods .....	9
Work-based learning (WBL)/Placements elements .....	9
Skills Matrix .....	10
Programme Diagram .....	12
Programme Regulations .....	13
Admission Regulations .....	13
Assessment Regulations.....	13
Points of Reference for Programme Design.....	13
Programme Profile .....	15
MSc Medical Ultrasound.....	15

## Basic Framework / Programme Data

---

<p>Originating institution(s)</p> <p>Award(s) and title(s)</p> <p>UCAS Programme Code(s) (where applicable and if known)</p> <p>HESA JACS (Joint Academic Coding System) Code(s) per programme/pathway</p> <p>External reference points(s)</p>	<p>Anglo-European College of Chiropractic</p> <p>MSc Medical Ultrasound</p> <p>n/a</p> <p>B800</p> <p>QAA Qualifications Framework</p> <p><a href="http://www.qaa.ac.uk/ASSURINGSTANDARDSANDQUALITY/ACADEMICINFRASTRUCTURE/Pages/default.aspx">www.qaa.ac.uk/ASSURINGSTANDARDSANDQUALITY/ACADEMICINFRASTRUCTURE/Pages/default.aspx</a></p> <p>The framework for higher education qualifications in England, Wales and Northern Ireland</p> <p><a href="http://www.qaa.ac.uk/Publications/InformationAndGuidance/Pages/The-framework-for-higher-education-qualifications-in-England-Wales-and-Northern-Ireland.aspx">www.qaa.ac.uk/Publications/InformationAndGuidance/Pages/The-framework-for-higher-education-qualifications-in-England-Wales-and-Northern-Ireland.aspx</a></p> <p>Code of practice for the assurance of academic quality and standards in higher education, Section 2: Collaborative provision and flexible and distributed learning (including e-learning) - Amplified version (October 2010)</p> <p><a href="http://www.qaa.ac.uk/AssuringStandardsAndQuality/code-of-practice/Pages/default.aspx">www.qaa.ac.uk/AssuringStandardsAndQuality/code-of-practice/Pages/default.aspx</a></p> <p>Academic Regulations, Policies and Procedures, Bournemouth University</p> <p>Royal College of Radiology: Standards for providing 24-hour diagnostic Radiology Service</p> <p><a href="http://www.rcr.ac.uk/docs/radiology/pdf/BFCR(09)3_diagnostic24hr.pdf">www.rcr.ac.uk/docs/radiology/pdf/BFCR(09)3_diagnostic24hr.pdf</a></p> <p>Ultrasound training recommendations for medical and surgical specialties, Second edition</p> <p><a href="http://www.rcr.ac.uk/publications.aspx?PageID=310&amp;PublicationID=385">http://www.rcr.ac.uk/publications.aspx?PageID=310&amp;PublicationID=385</a></p> <p>BMUS Safety Guidelines</p> <p><a href="http://www.bmus.org/policies-guides/pg-safetystatements.asp">www.bmus.org/policies-guides/pg-safetystatements.asp</a></p> <p>UKAS Guidelines for Professional Working Standards</p> <p><a href="http://www.bmus.org/policies-guides/SoR-Professional-Working-Standards-guidelines.pdf">www.bmus.org/policies-guides/SoR-Professional-Working-Standards-guidelines.pdf</a></p> <p>Society of Radiographers The Scope of Practice in Medical Ultrasound</p> <p><a href="http://www.radiographyonline.com/article/S1078-8174(99)90223-7/abstract">www.radiographyonline.com/article/S1078-8174(99)90223-7/abstract</a></p> <p>Professional, Statutory and Regulatory Body (PSRB) links</p> <p>CASE : Consortium for the Accreditation of Sonographic Education: professional accreditation</p>
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Place(s) of delivery	AECC, Bournemouth Norway
Mode(s) of delivery	Part-time
Credit structure	MSc (180 credits; 90ECTS) PgDip (120 credits;60 ECTS) PgCert (60 credits; 30ECTS)
Duration	Minimum 2-3 years, Maximum 5 years.
Date of original approval(s)	April 2008
Date of first intake	01/10/13
Student numbers	Expected minimum/maximum/optimum 5/50/20
Placements	Clinical workplace by prior agreement at enrolment
Partner(s) and model(s)	n/a
Date and version number of this Framework/Programme Specification	April 2013 v 3.0
Version number of this document:	3.0

The Programme Specification was submitted for validation in [April/ 2008] v 1.0  
The Programme Specification was submitted with modifications in [Sept/ 2009] v 1.1  
The Programme Specification was submitted for revalidation in [April / 2011] v 2.0  
The Framework Specification was submitted with modifications in [Oct / 2012] v 2.1  
The Framework Specification was submitted for revalidation in [April / 2013] v 3.0

Approved for presentation:



.....  
Professor Haymo Thiel  
Principal (AECC)

## **Aims of the Document**

---

The aims of this document are to:

- Describe the academic and professional context of the MSc Ultrasound framework
- Identify the overall framework/programme intended learning outcomes
- Describe the teaching and learning, and assessment strategies and methods
- Provide the admissions and assessment regulations
- Describe the work-based learning/placement elements
- Provide a programme diagram and skills matrix
- Provide a programme profile

## **Academic and Professional Context**

---

This framework underpins the education and training of healthcare professionals in diagnostic ultrasound at the postgraduate level. It combines skills-based units demonstrating the acquisition of clinical competencies in diagnostic ultrasound with the contextual units of reflective practice and research/audit enquiry. The framework is intended for healthcare professionals employed in their respective working communities to undertake part-time study and base a significant part of their learning in their own workplace. As such, this is a part-time programme with some attendance requirement for seminars and supervised practical workshops.

In the academic context, this is an M level framework requiring critical thinking and critical writing skills at all stages of the programme. Irrespective of the optional units chosen, the acquisition and demonstration of M level learning outcomes is the underpinning basis of the framework/programme.

In the professional context, the framework reflects safe and competent practice in specified clinical applications in diagnostic ultrasound. The programme is designed to be flexible to the individual needs of practitioners working in different disciplines, enabling them to acquire diagnostic and other ultrasound skills in different body parts and techniques. Ultrasound is an increasingly used clinical skill, and this programme is responsive to employers' needs as well as those of individual practitioners. This framework is currently accredited by the national professional body (Consortium for Accreditation of Sonographic Education, CASE).

All students graduate with the same award. It is the academic transcript that clearly shows the specific skills attainment and profile of the student. This is in line with other similar programmes in the sector, and common practice to inform employers in this area.

## **Framework Aims**

---

This framework aims to enable students to attain application-specific skills in diagnostic ultrasound ensuring safe and competent practice at the advanced level of a reflective and critical practitioner. As part of this process, the framework aims to:

- acquire in-depth knowledge and understanding in diagnostic ultrasound at the forefront of professional practice;
- develop advanced clinical skills for safe and competent practice in ultrasound;
- apply clinical competencies to inform advanced professional practice in ultrasound;
- advance professional practice through critical evaluation and critical reflection on practice skills;
- develop a philosophy consistent with continual learning and professional development throughout professional life.

## **Programme Intended Learning Outcomes**

---

A student completing the programme is expected to:

### **A Subject Knowledge and Understanding**

- A1 Acquire a systematic knowledge and understanding of the science of ultrasound at the forefront of knowledge
- A2 Acquire a systematic knowledge and understanding of the relevant anatomy and pathology in a named clinical application(s)
- A3 Acquire a systematic understanding of the techniques and use of diagnostic ultrasound in a named clinical application(s) at the forefront of knowledge
- A4 Develop a systematic understanding of how methodologies of research and audit enquiry are used to create and interpret knowledge in the discipline

### **B Intellectual Skills**

- B1 Develop a critical awareness of issues and problems in the practice of diagnostic ultrasound
- B2 Deal with complex issues, making sound judgements in the absence of complete data
- B3 Critically evaluate research and experiential evidence, and apply new knowledge and insight to inform and change professional practice.
- B4 Synthesise existing knowledge and practice to identify areas amenable to research and other forms of enquiry.
- B5 Find and critically evaluate research and experiential evidence, and apply new knowledge and insight to inform and improve professional practice

### **C Subject-Specific / Practical Skills**

- C1 Develop new skills for safe and competent diagnostic ultrasound practice
- C2 Act autonomously in planning and implementing tasks at a professional level

- C3 Communicate findings and conclusions from the practice of diagnostic ultrasound to peers, colleagues and patients
- C4 Integrate acquired knowledge and skills with those of colleagues as part of an effective and professional team
- C5 Plan and undertake an original and systematic line of enquiry to inform professional practice

#### D Transferable Skills

- D1 Take personal responsibility for meeting learning needs through learned outcomes
- D2 Acquire the ability to learn independently necessary for continuing professional development
- D3 Think critically and communicate reasoned arguments to interested parties
- D4 Make judgements based on a range of evidence sources
- D5 Acquire the attitudes and abilities necessary for critical self-analysis and reflective practice



## **Learning and Teaching Strategies and Methods**

---

A range of teaching and learning methods are used. The primary learning environment is the workplace setting. The student is expected to adopt self-directed and adult learning strategies in which individual learning needs are identified within the individual's own professional practice, learning achieved by appropriate means, and learning outcomes applied to meet these needs and change practice. This experiential and reflective learning model specifically demonstrates the transferable skills D1-D5. Students are required to attend for formal lectures and presentations (A1-A4), as well as for practical demonstrations and practical hands-on workshops (C1-C3). Learning experiences in the clinical setting achieve many of the intellectual and practical skills associated with diagnostic ultrasound (B1-B3, C1-C4). Learning by undertaking a research study or clinical audit under supervision in the final stage achieves knowledge and skills in empirical data collection, analysis and interpretation generating original knowledge in the form of answers to research questions or recommendations based on review of current practice against pre-determined standards (B4, B5, C5).

## **Assessment Strategies and Methods**

---

ILOs A1-A3, B1-B3, C1-C4, D1-D5 are assessed in critical reflective written accounts in which critical thinking and critical writing skills are demonstrated in relevant applications. Clinical competency is assessed through reflective case studies (A1-A3, B1-B3, C1-C4, D1-D6), a record of clinical cases (C1) and a practical assessment (C1-C4). The research/audit protocol and dissertation/clinical audit assess A4, B4, B5, C5, D1- D5.

## **Work-based learning (WBL)/Placements elements**

---

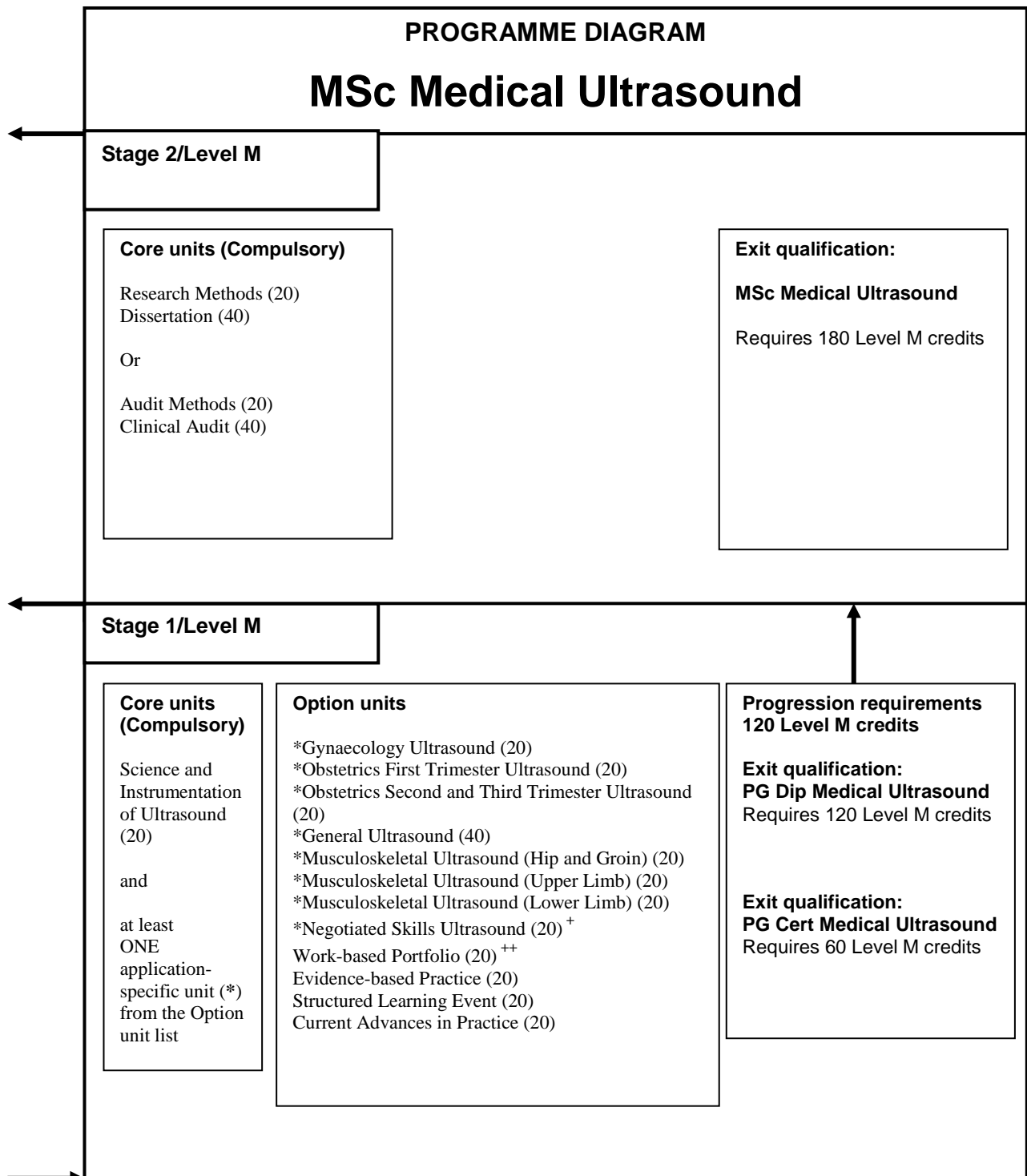
In order to satisfy the assessed elements of the clinical application units, students must submit a Clinical Placement Agreement Form. This Form must be completed to the satisfaction of the programme leader at the stage prior to acceptance on the programme. This form ensures that the student has the opportunity to fulfil the clinical requirements of the programme in his/her workplace. It is the responsibility of the student and not the AECC to ensure that these opportunities are both available and sufficient to meet the requirements of the programme.

## Skills Matrix

Units		Programme Intended Learning Outcomes																			
		A 1	A 2	A 3	A 4	B 1	B 2	B 3	B 4	B 5	C 1	C 2	C 3	C 4	C 5	D 1	D 2	D 3	D 4	D 5	
L E V E L  M	Science and Instrumentation of Ultrasound	*	*	*		*	*	*			*	*				*	*	*	*	*	
	Gynaecology Ultrasound	*	*	*		*	*	*			*	*	*	*		*	*	*	*	*	
	Obstetrics First Trimester Ultrasound	*	*	*		*	*	*			*	*	*	*		*	*	*	*	*	
	Obstetrics Second and Third Trimester Ultrasound	*	*	*		*	*	*			*	*	*	*		*	*	*	*	*	
	General Ultrasound	*	*	*		*	*	*			*	*	*	*		*	*	*	*	*	
	MSK Ultrasound (Hip and Groin)	*	*	*		*	*	*			*	*	*	*		*	*	*	*	*	
	MSK Ultrasound (Upper Limb)	*	*	*		*	*	*			*	*	*	*		*	*	*	*	*	
	MSK Ultrasound (Lower Limb)	*	*	*		*	*	*			*	*	*	*		*	*	*	*	*	
	Negotiated Ultrasound Skills	*	*	*		*	*	*			*	*	*	*		*	*	*	*	*	
	Work-based Portfolio				*	*	*	*	*	*	*	*	*		*	*	*	*	*	*	
	Current Advances in Practice				*			*	*	*					*	*	*	*	*	*	
	Evidence-based Practice				*			*	*	*					*	*	*	*	*	*	
	Structured Learning Event				*	*		*	*	*					*	*	*	*	*	*	
	Research Methods				*			*	*						*	*	*	*	*	*	
	Dissertation				*			*	*	*					*	*	*	*	*	*	
	Audit Methods				*			*	*						*	*	*	*	*	*	
Clinical Audit				*			*	*	*					*	*	*	*	*	*		

<p><b>A - Subject Knowledge &amp; Understanding</b></p> <ol style="list-style-type: none"> <li>1. Acquire a systematic knowledge and understanding of the science of ultrasound at the forefront of knowledge</li> <li>2. Acquire a systematic knowledge and understanding of the relevant anatomy and pathology in a named clinical application(s)</li> <li>3. Acquire a systematic understanding of the techniques and use of diagnostic ultrasound in a named clinical application(s) at the forefront of knowledge</li> <li>4. Develop a systematic understanding of how methodologies of research and audit enquiry are used to create and interpret knowledge in the discipline</li> </ol>	<p><b>C – Subject-specific / Practical Skills</b></p> <ol style="list-style-type: none"> <li>1. Develop new skills for safe and competent diagnostic ultrasound practice</li> <li>2. Act autonomously in planning and implementing tasks at a professional level</li> <li>3. Communicate findings and conclusions from the practice of diagnostic ultrasound to peers, colleagues and patients</li> <li>4. Integrate acquired knowledge and skills with those of colleagues as part of an effective and professional team</li> <li>5. Plan and undertake an original and systematic line of enquiry to inform professional practice</li> </ol>
<p><b>B - Intellectual Skills</b></p> <ol style="list-style-type: none"> <li>1. Develop a critical awareness of issues and problems in the practice of diagnostic ultrasound</li> <li>2. Deal with complex issues, making sound judgements in the absence of complete data</li> <li>3. Critically evaluate research and experiential evidence, and apply new knowledge and insight to inform and change professional practice</li> <li>4. Synthesise existing knowledge and practice to identify areas amenable to research and other forms of enquiry</li> <li>5. Find and critically evaluate research and experiential evidence, and apply new knowledge and insight to inform and improve professional practice</li> </ol>	<p><b>D - Transferable Skills</b></p> <ol style="list-style-type: none"> <li>1. Take personal responsibility for meeting learning needs through learned outcomes</li> <li>2. Acquire the ability to learn independently necessary for continuing professional development</li> <li>3. Think critically and communicate reasoned arguments to interested parties</li> <li>4. Make judgements based on a range of evidence sources</li> <li>5. Acquire the attitudes and abilities necessary for critical self-analysis and reflective practice</li> </ol>

## Programme Diagram



<sup>+</sup> Negotiated Skills Ultrasound unit can be completed up to 5 times based on a different clinical application each time

<sup>++</sup> Work-based Portfolio unit can be completed up to 3 times based on a different topic each time

## Programme Regulations

---

### Admission Regulations

The regulations for this programme are the University's Standard Admission Regulations for taught Postgraduate and Graduate Certificate/Diploma programmes with the following approved additions:

- Applicants should normally be a practising healthcare professional.
  - For chiropractors, normally a first qualification university degree in chiropractic enabling entry to the profession as a chiropractor.
- Applicants must complete to the satisfaction of the Programme Leader a Clinical Placement Agreement Form (signed by the workplace practice educator).
- Applicants may be accredited (APL) for prior M level learning or equivalent at the discretion of the programme leader. The amount of credit will conform to the University's Standard Accreditation of Prior Learning and Articulation Arrangements.
- Applicants for whom English is not their first language, must offer evidence of qualifications in written and spoken English. Acceptable qualifications are IELTS (academic) 7.0 and TOEFL 250 (computer based) or 600 (paper based), or direct equivalents.

### Assessment Regulations

The assessment regulations are the University's Standard Postgraduate Assessment Regulations.

#### **Provision for candidates with valid reasons for poor performance.**

Aegrotat award is not available.

## Points of Reference for Programme Design

---

QAA Qualifications Framework

<http://www.qaa.ac.uk/ASSURINGSTANDARDSANDQUALITY/ACADEMICINFRASTRUCTURE/Pages/default.aspx>

Code of practice for the assurance of academic quality and standards in higher education, Section 2: Collaborative provision and flexible and distributed learning (including e-learning) - Amplified version (2010) <http://www.qaa.ac.uk/AssuringStandardsAndQuality/code-of-practice/Pages/default.aspx>

Academic Regulations, Policies and Procedures, Bournemouth University

Royal College of Radiology: Standards for providing 24-hour diagnostic Radiology Service [http://www.rcr.ac.uk/docs/radiology/pdf/BFCR\(09\)3\\_diagnostic24hr.pdf](http://www.rcr.ac.uk/docs/radiology/pdf/BFCR(09)3_diagnostic24hr.pdf)

Ultrasound training recommendations for medical and surgical specialties, Second edition <http://www.rcr.ac.uk/publications.aspx?PageID=310&PublicationID=385>

BMUS Safety Guidelines <http://www.bmus.org/policies-guides/pg-safetystatements.asp>

UKAS Guidelines for Professional Working Standards

[www.bmus.org/policies-guides/SoR-Professional-Working-Standards-guidelines.pdf](http://www.bmus.org/policies-guides/SoR-Professional-Working-Standards-guidelines.pdf)

Society of Radiographers The Scope of Practice in Medical Ultrasound

[www.radiographyonline.com/article/S1078-8174\(99\)90223-7/abstract](http://www.radiographyonline.com/article/S1078-8174(99)90223-7/abstract)

## Programme Profile

<b>Originating Institution(s):</b> AECC		Place(s) of Delivery: AECC, Norway		Framework Title (in full): <b>MSc Ultrasound</b>						Mode(s) of study <sup>1</sup> : PT							
		Programme HESA JACS code:  B800		Programme Award and Title: <b>MSc Medical Ultrasound</b>						Expected Length of study <sup>2</sup> : PT =3-5							
		Interim Award and Titles & required credits: <b>PgCert Medical Ultrasound</b> <b>PgDip Medical Ultrasound</b>						BU Credit Structure & ECTS <sup>3</sup> : MSc (180 credits; 90ECTS) PgDip (120 credits;60 ECTS) PgCert (60 credits; 30ECTS)									
Unit identification				Cost Centre(s) <sup>4</sup>				Unit Details					Assessment Regs <sup>7</sup> :SR				
Unit version no.	Unit name	HESA JACS Subject Code	CC 1	%	HESA JACS Subject Code	CC2	%	Prog year <sup>5</sup> FT	Prog year <sup>5</sup> PT	Core / option	No of credits <sup>6</sup>	Level (C,I,H, PgC, PgD, M)	Assessment <sup>8</sup> Element Weightings <sup>9</sup>				
													Exam 1	Exam 2	C/Work 1	C/Work 2	Practice 1 logbook
	Science and Instrumentation of Ultrasound		04	100%					1	C	20	M	P/F		100%		
	Gynaecology Ultrasound		04	100%					1/3	O	20	M	P/F		100%		P/F
	Obstetrics First Trimester Ultrasound		04	100%					1/3	O	20	M	P/F		100%		P/F
	Obstetrics Second and Third Trimester Ultrasound		04	100%					1/3	O	20	M	P/F		100%		P/F
	General Ultrasound		04	100%					1/3	O	40	M	P/F		100%		P/F
	Musculoskeletal Ultrasound (Hip and Groin)		04	100%					1/3	O	20	M	P/F		100%		P/F
	Musculoskeletal Ultrasound (Upper Limb)		04	100%					1/3	O	20	M	P/F		100%		P/F
	Musculoskeletal Ultrasound (Lower Limb)		04	100%					1/3	O	20	M	P/F		100%		P/F
	Negotiated Ultrasound Skills 1-5		04	100%					1/3	O	20	M	P/F		100%		P/F
	Work-based Portfolio 1-3		04	100%					1/3	O	20	M			100%		
	Evidence-based Practice		04	100%					1/3	O	20	M			100%		
	Current Advances in Practice		04	100%					1/3	O	20	M			100%		

	Structured Learning Event		04	100%				1/3	O	20	M			100%		
	Research Methods		04	100%				2/3	C/O	20	M			100%		
	Dissertation		04	100%				2/3	C/O	40	M			100%		
	Audit Methods		04	100%				2/3	C/O	20	M			100%		
	Clinical Audit		04	100%				2/3	C/O	40	M			100%		
Effective from <sup>10</sup> Prog Year / Month / Year			<b>Contact in School:</b> <a href="mailto:msc@aecc.ac.uk">msc@aecc.ac.uk</a> or <a href="mailto:mthiel@aecc.ac.uk">mthiel@aecc.ac.uk</a>				Date approved <sup>11</sup> :		Programme Specification version no. <sup>12</sup> :			Placement <sup>13</sup> :				
Yr. 1	10	2013							3.0							
Yr. 2	10	2014	Name of Professional, Statutory or Regulatory Body (if appropriate) <sup>14</sup> : Consortium for the Accreditation of Sonographic Education (CASE)						Diploma Supplement Statement regarding PRSB accreditation <sup>15</sup> :							
Yr. 3	10	2015														
Yr.4	10	2016							This programme is accredited by The Consortium for the Accreditation of Sonographic Education (CASE).							



