Course Specification

Course Summary Information		
1	**Course Title**	MSc Broadcast Engineering
2	**Course Code**	PT1889 PT1890 (PP)
3	**Awarding Institution**	Birmingham City University
4	**Teaching Institution(s)** (if different from point 3)	
5	**Professional Statutory or Regulatory Body (PSRB) accreditation** (if applicable)	

6	**Course Description**
	Developed and delivered in partnership with the BBC, our MSc Broadcast Engineering is designed to meet the growing demand for technically proficient, creative problem-solvers who can contribute to the constantly evolving broadcast industry. Whether you are looking to advance your career or build specialist expertise, the course is designed to elevate your skills and prepare you for the challenges of a rapidly changing sector. Broadcast technologies are continually evolving, integrating with systems such as IP-based media delivery, games, virtual environments, and artificial intelligence (AI), to transform how media is created, managed, and delivered. The UK has long been at the forefront of this evolution, with a high calibre of recognition in the TV production and technology industries. The course is underpinned by this UK expertise. This unique collaboration will provide you with the opportunity to engage with industry professionals and develop practical skills using industry-standard broadcast facilities and technologies. This course is shaped by close engagement with industry, drawing on live case studies, current industry standards, and the expertise of teaching staff with ongoing involvement in broadcast engineering, research and practice. You will engage with industry-standard systems and real-world production challenges throughout the course, ensuring your learning reflects the rapidly evolving demands of the broadcast and media technology sector. You will develop advanced technical knowledge and hands-on expertise across the theories, technologies, and practices that underpin modern broadcast engineering. This course embodies a STEAM-based approach, combining rigorous engineering and technical foundations, from broadcast systems and networking to AI and data-driven technologies, with the creative and production disciplines central to modern media-making. Through project modules grounded in industry practice and standards, you will develop the technical depth expected of an engineer alongside the creative, collaborative, and problem-solving skills needed to deliver real-world solutions to current industry challenges. If you're technically minded and enjoy solving complex problems in a fast-paced environment, broadcast engineering offers a rewarding route into the dynamic and ever-evolving media technology industry.

	Teaching will take place at BCU's City Centre Campus and, subject to final planning approval, at the BBC's new Midlands headquarters at the Tea Factory, located just a short walk away in Birmingham's creative quarter. **What's covered in this course?** You will apply advanced analytical and problem-solving skills to evaluate interconnected systems, make informed technical decisions under pressure, and develop solutions aligned with technical and operational requirements. You will develop professional competence through effective communication, collaborative working within multidisciplinary broadcast environments, applying attention to detail, safety awareness, and professional standards when managing complex technical operations. You will gain comprehensive technical knowledge of broadcast systems, including regulatory, transmission, media and platform standards, alongside an understanding of the protocols and technologies that enable reliable audio and video workflows. You will independently manage your professional development, critically evaluate emerging technologies and respond to ongoing industry and technological change. You will develop a critical awareness of the environmental, ethical and societal implications of broadcast engineering technologies, including their impact on energy consumption, resource use and sustainable production practices.

7	**Course Awards**		
7a	**Name of Final Award**	**Level**	**Credits Awarded**
	Master of Science Broadcast Engineering	7	180
7b	**Exit Awards and Credits Awarded**		
	Postgraduate Certificate Broadcast Engineering Postgraduate Diploma Broadcast Engineering	7 7	60 120

8	**Variation from the University Regulations**

9	**Delivery Patterns**		
Mode(s) of Study	**Location(s) of Study**	**Duration of Study**	**Code(s)**
Full Time	BCU City Centre Campus / BBC Tea Factory	1 year	PT1889
Full Time with Professional Placement	BCU City Centre Campus / BBC Tea Factory	18 months	PT1890

10	**Entry Requirements**	
	Home:	The admission requirements for this course are stated on the course page of the BCU website at https://www.bcu.ac.uk/.
	EU:	
	International:	
	Access:	

11	Course Aims
	On this course, you will: • Apply advanced analytical and problem-solving skills to evaluate interconnected systems, make informed technical decisions under pressure, and develop solutions aligned with technical and operational requirements. • Demonstrate professional competence through effective communication, collaborative working within multidisciplinary broadcast environments, applying attention to detail, safety awareness, and professional standards when managing complex technical operations. • Demonstrate comprehensive technical knowledge of broadcast systems, including regulatory, transmission, media and platform standards, alongside an understanding of the protocols and technologies that enable reliable audio and video workflows. • Independently manage professional development, critically evaluating emerging technologies and remaining responsive to ongoing industry and technological change. • Develop a critical awareness of environmental, ethical and societal implications of broadcast engineering technologies, including their impact on energy consumption, resource use and sustainable production practices.

12	Course Learning Outcomes
Knowledge and Understanding	
1	Demonstrate knowledge of advanced theories and concepts relevant to the development and operation of commercial broadcast systems and technologies.
2	Express a detailed understanding of the underpinning tools, technologies and techniques of media formats and methods used in broadcasting systems.
3	Recognise the framework of relevant legal requirements and appropriate professional conduct related to the development and operation of commercial broadcast systems and requirements for media production.
4	Apply advanced knowledge, tools and techniques to investigate new and emerging technologies, tools, techniques and processes used in broadcast systems.
5	Assess the evolving market requirements and technical developments arising globally in broadcasting systems and applying these as a progressive and responsible practitioner with the ability to fulfil clearly defined needs, identifying relevant constraints.
6	Design and justify technical solutions to broadcast engineering challenges, considering their operational, environmental, and sustainability implications within real-world contexts.
Skills and other attributes	
7	Apply engineering expertise to solve technical challenges that arise from, and enable, creative and artistic production requirements in broadcast media.
8	Design and develop innovative media services and solutions using appropriate tools and techniques applied at signal level, network level and in production applications.
9	Develop a working solution for the distribution of digital media products, including management of assets.
10	Select relevant test and measurement equipment and diagnostic software to analyse performance and ensure fitness for purpose.

13	Level Learning Outcomes
	Upon completion of 60 credits at Level 7 / the PG Cert, students will be able to:
	Design and develop innovative media services and solutions using appropriate tools and techniques applied at signal level, network level and in production applications.
	Express a detailed understanding of the underpinning tools, technologies and techniques of media formats and methods used in broadcasting systems.
	Develop a working solution for the distribution of digital media products, including management of assets.
	Upon completion of 120 credits at Level 7 / the PG Dip, students will be able to:
	Apply advanced knowledge, tools and techniques to investigate new and emerging technologies, tools, techniques and processes used in broadcast systems.
	Recognise the framework of relevant legal requirements and appropriate professional conduct related to the development and operation of commercial broadcast systems and requirements for media production.
	Select relevant test and measurement equipment and diagnostic software to analyse performance and ensure fitness for purpose.
	Apply engineering expertise to solve technical challenges that arise from, and enable, creative and artistic production requirements in broadcast media.
	Upon completion of 180 credits at Level 7 / the Master of Science Broadcast Engineering, students will be able to:
	Assess the evolving market requirements and technical developments arising globally in broadcasting systems and applying these as a progressive and responsible practitioner with the ability to fulfil clearly defined needs, identifying relevant constraints.
	Design and justify technical solutions to broadcast engineering challenges, considering their operational, environmental, and sustainability implications within real-world contexts.
	Demonstrate knowledge of advanced theories and concepts relevant to the development and operation of commercial broadcast systems and technologies.

14	Course Learning, Teaching and Assessment Strategy
	The Broadcast Engineering teaching strategy integrates theoretical knowledge with hands-on experiences, preparing students for real-world applications and curating a continuous learning mindset. **Learning and Teaching Approaches** Our teaching approach combines theory-based learning, practical hands-on workshops, training labs and studio-based exercises, to deliver both technical skills and applied learning. Modules are structured to emphasise active engagement with industry standard tools and collaborative project work, mirroring the cross-disciplinary nature of the industry. Students benefit from access to state-of-the-art facilities, including specialised labs, BBC Tea Factory resources, Parkside Studios and high-performance hardware/software, to gain hands-on experience in areas such as, audio and video systems, distribution networks, AI assisted productions, and broadcast workflows. Academic specialists within BCU's Computing and Media schools, combined with industry professionals including the BBC will bring their diverse expertise to the course, encouraging students to approach problems from multiple perspectives while building a solid foundation in broadcast engineering. **Assessment Methods** The course employs a variety of assessment methods that support both formative and summative evaluation, ensuring students receive feedback that aids their development over

	time. Assessments are designed to be reflective of industry expectations, combining project-based work, practical assessments, written reflections, and live studio exercises. **Feedback and Feed-Forward** Throughout the course, students will receive regular feedback and feed-forward guidance, supporting continuous improvement and helping them apply learning to future work. Formative assessments allow for ongoing feedback, enabling students to refine their work and develop key skills before final evaluations. Feed-forward strategies emphasise transferable skills and goal-setting, preparing students for progression into future professional roles. **Student Expectations** Students are expected to take an active role in their learning, participating fully in lab exercises, production projects, discussions, and practical sessions. Regular attendance and proactive engagement are essential, as is a commitment to independent study and experimentation. By embracing these expectations, students will maximise their learning potential, gain resilience, and develop adaptability - qualities that are invaluable within the creative technology industries.

15	**Course Requirements**
15a	**Level 7:** ***In order to complete this course a student must successfully complete all the following CORE modules (totalling 180 credits):***

Module Code	Module Name	Credit Value
CMP7253	Broadcast Workflows and Media Distribution Systems	30
CMP7254	Cloud & Networked Media Infrastructure	30
CMP7255	Studio, Production & Live Broadcast Technologies	30
CMP7256	AI for Broadcast Engineering and Responsible Innovation	30
CMP7257	Research Methods	30
CMP7258	MSc Individual Project	30

Level 6:

In order to qualify for the award of MSc Broadcast Engineering with Professional Placement, a student must successfully complete Level 7 modules listed above, totalling 180 credits, as well as the following Level 6 module:

Module Code	Module Name	Credit Value
PLA6003	Professional Placement	60

15b Structure Diagram

Level 7

SEMESTER ONE	SEMESTER TWO	SEMESTER THREE
Core CMP7253 Broadcast Workflows and Media Distribution Systems (30 credits)	Core CMP7255 Studio, Production & Live Broadcast Technologies (30 credits)	Core CMP7257 Research Methods (30 credits)
Core CMP7254 Cloud & Networked Media Infrastructure (30 credits)	Core CMP7256 AI for Broadcast Engineering and Responsible Innovation (30 credits)	Core CMP7258 MSc Individual Project (30 credits)

16 Overall Student Workload and Balance of Assessment

Overall student *workload* consists of class contact hours, independent learning and assessment activity, with each credit taken equating to a total study time of around 10 hours. While actual contact hours may depend on the optional modules selected, the following information gives an indication of how much time students will need to allocate to different activities at each level of the course.

- *Scheduled Learning* includes lectures, practical classes and workshops, contact time specified in timetable
- *Directed Learning* includes placements, work-based learning, external visits, on-line activity, Graduate+, peer learning
- *Private Study* includes preparation for exams

The *balance of assessment* by mode of assessment (e.g. coursework, exam and in-person) depends to some extent on the optional modules chosen by students. The approximate percentage of the course assessed by coursework, exam and in-person is shown below.

Level 7

Workload

13% time spent in timetabled teaching and learning activity

Activity	Number of Hours
Scheduled Learning	240
Directed Learning	466
Private Study	1094
Total Hours	1800

Balance of Assessment

Assessment Mode	Percentage
Coursework	72%
In-Person	28%