

MSc (DL) Building Information Management (BIM)

Programme Specification

Primary Purpose

Course management and quality assurance.

Secondary Purpose

Detailed information for students, staff and employers. Current students should refer to the related Course Handbook for further detail.

Disclaimer

The University of Portsmouth has checked the information given in this Programme Specification. We will endeavour to deliver the course in keeping with this Programme Specification; however, changes may sometimes be required arising from annual monitoring, student feedback, review and update of units and courses. Where this activity leads to significant changes to units and courses, there will be prior consultation of students and others, wherever possible, and the University will take all reasonable steps to minimize disruption to students. It is also possible that the University may not be able to offer a unit or course for reasons outside of its control, for example; the absence of a member of staff or low student registration numbers. Where this is the case, the University will endeavour to inform applicants and students as soon as possible. Where appropriate, the University will facilitate the transfer of affected students to another suitable course.

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Contents

Course Details	1
1. Named Awards.....	1
2. Course Code (and UCAS Code if applicable).....	1
3. Awarding Body	1
4. Teaching Institution	1
5. Accrediting Body	1
6. QAA Benchmark Groups	1
7. Document Control Information.....	1
8. Effective Session.....	1
9. Author	1
10. Faculty.....	1
11. Department	1
Curriculum	1
12. Educational Aims.....	1
13. Reference Points.....	2
14. General Learning Outcomes.....	2
15. Learning Outcomes	2
A. Knowledge and Understanding of:.....	2
B. Cognitive (Intellectual or Thinking) Skills, able to:	3
C. Practical (Professional or Subject) Skills, able to:	3
D. Transferable (Graduate and Employability) Skills, able to:	3
16. Learning and Teaching Strategies and Methods.....	3
17. Assessment Strategy.....	4
18. Course Structure, Progression and Award Requirements.....	5
19. Employability Statement.....	5
Course Management	5
20. Support for Student Learning.....	5
21. Admissions Criteria.....	6
A. Academic Admissions Criteria	6
B. Disability	6
22. Evaluation and Enhancement of Standards and Quality in Learning and Teaching	6
A. Mechanisms for Review and Evaluation	6
B. Responsibilities for Monitoring and Evaluation.....	6
C. Mechanisms for Gaining Student Feedback	7
D. Staff Development Priorities.....	7
23. Assessment Regulations	7
24. Role of Externals	7
25. Indicators of Standards and Quality.....	8
A. Professional Accreditation/Recognition.....	8
B. Periodic Programme Review (or equivalent).....	8
C. Quality Assurance Agency	8
D. Others	8
26. Further Information	8

Course Details

1. Named Awards

MSc (DL) Building Information Management (BIM)

2. Course Code (and UCAS Code if applicable)

C2697P

3. Awarding Body

University of Portsmouth

4. Teaching Institution

University of Portsmouth

5. Accrediting Body

Our postgraduate courses in Quantity Surveying and Property Development are accredited by the Royal Institution of Chartered Surveyors (RICS). This course will also be submitted for accreditation once fully established.

6. QAA Benchmark Groups

Construction, Property and Surveying.

7. Document Control Information

July 2018

8. Effective Session

2018-19

9. Authors

Sepehr Abrishami / Dominic Fox

10. Faculty

Technology

11. Department

School of Civil Engineering and Surveying

Curriculum

12. Educational Aims

- Responds to an urgent need for Architectural, Engineering, and Construction (AEC) industry specialists, seeking to develop skills in the theory and practice of BIM.
- Proposes a new curriculum, designed to address this shortcoming and aims to allow for students to develop skills, knowledge and understanding in BIM, including both the theoretical

and practical implications of such a method of working, and to facilitate the development of research skills to enable further individual specific research enquiry.

- To provide a flexible framework within which students in relevant fields may acquire the research skills essential for the pursuit of their subject(s).
- To equip postgraduates with the necessary transferable skills for lifelong learning and flexibility in the context of changing labour markets.
- To provide students with the skills and knowledge required to maximise career and further postgraduate study opportunities.
- To provide an awareness of the need to conduct research ethically and safely and a framework within which to do so.

13. Reference Points

The proposed course aims to simulate the real-life working environment by enabling collaboration amongst different stakeholders. Moreover, it aims to attract students with different backgrounds, i.e. construction management, architecture, civil engineering, quantity surveying, operation/project management, different backgrounds in engineering, etc. Hence, the nature of the proposed interdisciplinary course is to reach to a wider range of students without the prerequisite of having an in-depth knowledge in the field. The programme and outcomes have been developed taking account of:

- The scholarship, sector experience and research expertise of academic members of staff;
- University of Portsmouth Curricula Framework Document (2012);
- QAA UK Quality Code for Higher Education;
- Framework for Higher Education Qualifications (FHEQ) National Qualifications Framework;
- Construction, Property and Surveying QAA Subject Benchmark Statements;
- Experience of and expertise of relevant practitioners in the AEC industry;
- RICS Policy and Guidance on University Partnerships.

14. General Learning Outcomes

Students will develop taught and research skills in the theoretical and practical BIM implications in order to engage with AEC industry practices, developers, government organisations, and academic positions. During this online course, students develop skills in BIM (theory and practice), and graduates will become BIM strategists to address the AEC industry requirements regarding BIM implementation. The goal of this online course is not merely software training, rather, it aims to explore the concepts and acquire appropriate expertise in BIM implementation (considering BIM adoption and methods).

15. Learning Outcomes

A. Knowledge and Understanding of:

- A.1 Focused, critical and up to date knowledge of construction (information) management.
- A.2 Learn a holistic approach to AEC projects using state-of-the-art BIM software.
- A.3 Systematic approaches to constructing and interpreting the future direction of the AEC industry.
- A.4 Learn from industrial guest lecturers from leading companies in the practical implementation of BIM through webinars and online presentations.
- A.5 Work on an individual research project allowing students to develop specific skills and knowledge tailored to their chosen career path. They will receive training in appropriate research methods.

B. Cognitive (Intellectual or Thinking) Skills, able to:

- B.1 Demonstration of a comprehensive understanding of the techniques and methods available for research (suitable to level 7).
- B.2 With critical awareness, undertake analysis of complex and contradictory areas of construction (information) management knowledge and communicate the outcome effectively.
- B.3 Capability to critically document, scrutinise, evaluate, and present on BIM area from a given AEC project (suitable to level 7).
- B.4 Development of a thorough knowledge of BIM (theory and practice) and its application within the AEC industry.
- B.5 Ability to collaborate with an AEC professional in a chosen field and research.

C. Practical (Professional or Subject) Skills, able to:

- C.1 Facilitate the acquisition of subject specific skills to enable students to pursue postgraduate study and research within their chosen specialised field.
- C.2 Retrieve and select appropriate information from a range of sources.
- C.3 Apply the design process to enable the selection of appropriate processes.
- C.4 Communicate technical information in a lucid manner to both management and technical staff.
- C.5 Think creatively in order to develop design and analytical solutions.

D. Transferable (Graduate and Employability) Skills, able to:

- D.1 Communicate effectively in writing, speaking and in appropriate forms of presentation including the ability to present rhetorically effective, coherent, well-supported, and sustained arguments.
- D.2 Read and understand documents related to AEC projects and BIM software packages.
- D.3 Demonstrate effective self-management, initiative and personal responsibility in designing and conducting extended research projects.
- D.4 Assess problem domains and formulate appropriate problem solving strategies.
- D.5 Collaborate in teams to achieve goals, develop projects, and to work to deadlines.

16. Learning and Teaching Strategies and Methods

A1–A5 are delivered by distance learning using interactive online resources in Moodle, supported by structured tutor guidance via on-line discussion boards and email. The directed reading activities within Moodle provide course members with fundamental knowledge and understanding that encourages critical engagement with the literature. Moodle will also contain resources offering access to additional insights into both the secondary and primary source material through video tutorials and presentations. Group discussions via the online discussion boards will be used to encourage the critical evaluation of both secondary and primary source material. Structured tutorial guidance will enable students to research and plan essays, reports and dissertation work.

B1-B5 will be facilitated through the learning materials provided. These resources will prompt critical engagement with the diverse online resources and tutorials ensuring students understanding. Critical and independent thought is also facilitated through the structured support via email, phone, or Skype. Opportunities for formative feedback and peer review where appropriate will enable students to review their approach to learning.

C1–C5 are all delivered through taught units. While all units will develop these practical, subject specific skills the Integrated BIM Projects and Corporate Management unit is designed specifically to explicitly identify, enhance and reflect upon these through the development of an industry level BIM implementation report for a real construction project by students. Skills based practices will be developed widely through on-line exercises, class-discussion boards, email correspondence and the tutor-supervised dissertation. All assignments require that students to adopt the required practices of academic referencing.

D1-D5 are delivered using a range of teaching strategies and methods. Written communication skills, including the ability to construct compelling arguments, are advanced through the various written assessments. All students are required to take personal responsibility for managing their learning throughout, proactively seek academic guidance and use technical sources of help at

various stages of the programme on their own initiative, and to plan and deliver assignments to the required deadlines.

17. Assessment Strategy

The line between research concept and viable commercial tool has been crossed by BIM technology. Therefore, level 7 students should show a professional approach to work and research, and demonstrate that they have: developed independence of thought; a high level of intellectual rigour and consistency; excellent academic/intellectual skills; considerable creativity and originality; and excellent research skills. A variety of assessment styles are used in different units, however, in general, assessment of the levels of theoretical knowledge and understanding will be both through formative and summative assessment, consisting of a combination of dissertations, coursework assignments and portfolios. Personal tutorials via Skype, discussion boards and email will also provide a further opportunity for assessing and reflecting upon individual student's progress and needs. Class-discussion boards will help students develop critical thinking skills. Written feedback on all assessments will help students understand how to apply their strengths and identify areas requiring attention to improve their performance prior to subsequent assessments.

Assessment is both formative and summative. Summative assessments such as essays encourage students to draw upon a wider range of theories regarding BIM and modern methods of construction and diverse sources to develop a more evaluative and critical approach to the materials. Testing of core knowledge is through a mix of design, modelling, and management portfolios and assignments. Transferable and key skills will not be separately assessed, but must necessarily be employed to achieve the learning outcomes in the course units. Practical skills are assessed in coursework, through which students need to demonstrate the ability to reflect on the work, not simply report it. The assessments are designed to allow appraisal of skill, and for the students to demonstrate a wider contextual understanding of what they are doing. Ethical considerations are often directly assessed in units.

Practical activities in the form of online computer-based tutorials provide an opportunity to demonstrate effective professional skills, working in teams (characteristic of many areas of the AEC industry), communicating and reporting. All students undertake a dissertation project which requires independent research study and research project management, supported by a supervising tutor. Through the supervisory system, students will receive formative feedback on their dissertation ideas and draft chapters, with the purpose of helping them improve for the final assessment task. After successful completion of all unit assessments, students should be able to conceive, plan, manage, implement, and present a substantive AEC project with breadth and scope in commensurate with a Master of Science award.

A1-A5: These will be assessed through a range of essays, reflective reports, and an extended individual research project (dissertation).

B1-B5: These will be assessed through essays, portfolio and primary source-based document commentaries and research projects which will require deployment of a range of critical analytical skills and bibliographic research skills.

C1-C5: These are assessed through a range of coursework assignments which require a practical demonstration of the skills identified above. The industry level report in Integrated BIM Projects and Corporate Management (U25923) requires a conscious assessment of these skills. The dissertation should reflect the culmination of these abilities and the practical application of the skills to a substantial research-based project. All students on the course will be encouraged to network with each other via their Course level Moodle site, and within other unit-based Moodle sites, and to develop informal student discussion groups. This will provide opportunities for direct exchange of information, and sharing experiences from a diverse range of course members encouraging reflective practices and peer review. Critical examination of research methods and evidence will inform the development of personal research proposals.

D1-D5: These will be assessed through a range of assessment tasks such as portfolios, essays, reports and the dissertation. The system of deadlines and associated penalties for late submission ensure students are encouraged to plan their time and manage academic tasks and take personal responsibility for their own learning.

18. Course Structure, Progression and Award Requirements

The programme is offered as a two year part-time programme (DL). The degree is based on the University of Portsmouth credit rating for taught Masters degrees of 180 credits. Taught units are rated at 30 credit point units, where 30 credits represent 300 hours of study time and includes up to 48 hours of online activities and the Dissertation is rated at 60 credits. A Postgraduate Diploma exit award requires 120 credits. A Postgraduate Certificate exit award requires 60 credits from the taught units. Following table shows the course structure:

Year	Teaching Block	Unit Code	Unit Description	Short Name	Credits	Level	Unit Dept	Type	Final Project Unit ?
1	Year	U25239	BIM Theory and Practice (DL)	U25239	30	7	SCE S	C	
1	Year	U25240	Modelling and Interoperability in the BIM Environment (DL)	U25240	30	7	SCE S	C	
2	Year	U25923	Integrated BIM Projects and Corporate Management (DL)	U25923	30	7	SCE S	C	
2	Year	U25924	Strategic and General Management (DL)	U25924	30	7	SCE S	C	
1&2	Year	U25925	Dissertation (DL)	U25925	60	7	SCE S	C	Y
1&2	Year	U25926	Personal Tutorials (MSBIM DL)	U25926	0	7	SCE S	C	

19. Employability Statement

Employability skills, in terms of subject specific and transferable skills, are delivered (and assessed where applicable) throughout the curriculum. Through assessments, and personal tutor provision we provide structured support to enable students to develop their employability skills throughout the course. MSc (DL) BIM will support progression into further research or an academic career. BIM professionals who pursue careers in large or small businesses and in the public sector, can expect to work in roles such as BIM coordinator/strategists, project managers, consultants, and technicians. Our postgraduate courses in Quantity Surveying and Property Development are accredited by the Royal Institution of Chartered Surveyors (RICS). This course will also be submitted for accreditation once fully established (meeting has already arranged in June).

Moreover, students will benefit from SCES strong links with both architecture, engineering and construction industry and professions. BIM is a new and valuable skill to many employers, and graduates from this course are highly sought after. This course also provides students with the skills and knowledge to support employability in a range of professional roles in the built environment, both in the UK and internationally.

Course Management

20. Support for Student Learning

- The Course is managed by a Course Leader
- Collaborative programmes are managed on a day-to-day basis by the University Contact who may or may not be the Course Leader

- The Combined Honours Degree is managed by a Course Leader from one subject area and a Deputy Course Leader from the other
- An on-line induction programme introduces the student to the University and their course
- Each student has a personal tutor, responsible for pastoral support and guidance
- University support services include careers, financial advice, housing and counselling
- The Academic Skills Unit (ASK)
- The Additional Support and Disability Advice Centre (ASDAC)
- Excellent library facilities
- Student course and unit handbooks provide information about the course structure and University regulations
- Feedback is provided for all assessments
- Personal Development Planning (PDP) for all awards

21. Admissions Criteria

A. Academic Admissions Criteria

Standard University rules apply and this will normally mean that candidates are in possession of an honours degree with at least a classification of 2.2 or equivalent in a technical or analytical discipline (Architecture, Construction Management, Mechanical/Electrical Engineering, Civil, Surveying, and Project Management). All other qualifications or experience presented must be forwarded to the Admissions Tutor for a University of Portsmouth decision. English language proficiency at a minimum of IELTS band 6.0 with no component score below 5.5.

B. Disability

The University makes no distinction in its admissions policy with regard to disability and will endeavour to make all reasonable adjustments in order to make it possible for students to study at Portsmouth on a course of their choice.

22. Evaluation and Enhancement of Standards and Quality in Learning and Teaching

A. Mechanisms for Review and Evaluation

- Course Leader's Annual Standards and Quality Evaluative Review
- Head of Department's Annual Standards and Quality Evaluative Review
- Unit and Course Level student feedback considered at Board of Studies
- Unit Assessment Board consideration of student performance for each programme
- Annual Standards and Quality Reports to Board of Studies, including consideration of Subject and Award External Examiner Reports
- Periodic Programme Review
- Student Representatives and Student/Staff Consultative Committees
- National Student Survey
- National Postgraduate Taught Experience Survey
- Staff Performance and Development Review
- Peer Review and Development Framework
- Faculty Learning and Teaching Committee

B. Responsibilities for Monitoring and Evaluation

- Unit Co-ordinators for unit content and delivery
- Course Leader for day-to-day running of course
- Deputy Course Leader for day-to-day running of Combined Honours route

- University Academic Contact for day-to-day running of course
- Partner Institution Academic Contact
- Board of Studies with overall responsibilities for operation and content of course
- Combined Honours Management Board
- Head of Department
- Associate Dean (Academic)
- Associate Dean (Students)
- Quality Assurance Committee
- Unit, Award and Progression Board of Examiners

C. Mechanisms for Gaining Student Feedback

- Student Representation on Board of Studies
- Student Staff Consultative Committees
- Unit and Course level student feedback questionnaires
- University participates in external student surveys, e.g. National Student Survey (NSS), Postgraduate Taught Experience Survey (PTES), Postgraduate Research Experience Survey (PRES) and International Student Barometer (ISB)

D. Staff Development Priorities

- Academic staff undertake activities related to research, scholarship, teaching and learning and student support and guidance
- Annual staff performance and development reviews match development to needs
- Managers undertake a variety of management development programmes
- New academic staff required to undertake appropriate University of Portsmouth learning and teaching programmes
- All academic staff encouraged to seek Higher Education Academy membership
- Academic staff undertake initial and continuing professional development within the Academic Professional Excellence Framework (APEX) programme which is aligned with the Higher Education Academy (HEA)'s UK Professional Standards Framework (UKPSF)
- Support staff are encouraged to attend short courses in areas such as minute taking, and specific IT packages

23. Assessment Regulations

The current University of Portsmouth academic regulations will apply to this programme (see [Assessment and Regulations](#)¹).

24. Role of Externals

Subject External Examiners who will:

- Oversee unit assessment and usually attend Unit Assessment Boards
- Review unit assessment strategy
- Sample assessment artefacts
- Present report to Unit Assessment Boards

Award External Examiners (usually also a Subject External Examiner) who will:

- Oversee and attend Award/Progression Boards
- Scrutinise and endorse the outcomes of assessment

¹ www.port.ac.uk/departments/services/academicregistry/qualitymanagementdivision/assessmentandregulations/

- Ensure that the standard of the award is maintained at a level comparable with that of similar awards elsewhere in the United Kingdom

25. Indicators of Standards and Quality

A. Professional Accreditation/Recognition

None at present. RICS and CIOB to be investigated.

B. Periodic Programme Review (or equivalent)

A new programme, not yet subject to periodic review.

C. Quality Assurance Agency

QAA Higher Education Review, March 2015, judgements about standards and quality meet UK expectations (see [Higher Education Review of the University of Portsmouth, March 2015](#)²).

D. Others

None.

26. Further Information

Further information may be found in:

- Student Handbook
- University of Portsmouth Curriculum Framework Document
- University of Portsmouth Prospectus
- [University of Portsmouth](#)³ and [School/Department](#)⁴ websites

² http://www.qaa.ac.uk/docs/qaa/reports/university-of-portsmouth-her-15.pdf?sfvrsn=5071f581_4

³ www.port.ac.uk/

⁴ www.port.ac.uk/aboutus/