University of Plymouth

Faculty of Arts, Humanities and Business

School of Art, Design and Architecture

Programme Specification

MA in Smart Urban Futures

Definitive Document Approved: 10.7.20

Implementation Date: September 2018

Amended by Minor Change: 13.12.19

1. MA

Final award title
MA Smart Urban Futures Level 7 (180 Credits)

UCAS code – N/A
JACS code – K900

Level 7 Intermediate award title(s)
Postgraduate Diploma Smart Urban Futures (120 credits)
UCAS code - N/A
JACS code - K900

Level 7 Intermediate award title(s)
Postgraduate Certificate Smart Urban Futures (60 credits)
UCAS code - N/A
JACS code - K900

2. Awarding Institution: University of Plymouth
Teaching institution(s): University of Plymouth

3. Accrediting body(ies)
N/A

4. Distinctive Features of the Programme and the Student Experience

Smart Urban Futures is a unique and innovative new MA programme that will equip students to address emerging design challenges at the boundaries between smart technologies and urban design and planning. The programme of study addresses the growing need for professional education in the integration of cities with technologies, with a focus on the social, cultural and technological contexts. Students will gain technical skills in IoT, smart technologies, Open Data, 3D fabrication, Augmented Reality and Virtual reality complimented by core teaching in urban design, planning and placemaking. The programme will deliver graduates with a valuable skillset that integrates urban design and planning design skills with digital and smart programming and technological abilities.

Through a design lab approach, students will develop digital prototyping and place-making projects that respond to the opportunities and needs of Digital Living, Transport, Health, Mobility, Governance and Sustainability in a holistic approach to smart urban futures. The design lab adopts a creative, design–based approach to complex multi-sited briefs. This will be set within a critical framework to appraise the application of these technologies to design. There will be a close cooperation with a range of multi-disciplinary partners; from industry, to city planning and startups and the focus of student work will be on real-world problems and scenarios. The programme has a focus on innovation and entrepreneurship and draws on the expertise and wider networks of the Plymouth Business School in conjunction with their Future Entrepreneurship Centre.

The programme links to staff research strengths in the fields of smart cities, IoT and digital art and technology (DAT).

Summary of key features:

- Unique programme in emerging field of smart urban futures.
- Digital and spatial skillset that synthesises digital and smart programming and urban design and planning skills.
- Addressing real urban challenges through a design lab approach.
- Co-design working within multi-disciplinary teams with external partners.
- Delivering innovation through social responsible approach.
- Focus on entrepreneurship and innovation delivered in conjunction with Future Entrepreneurship Centre at Plymouth Business School.
- Embedded within research excellence of smart cities and digital art and technology with internationally recognised academics.
- Career development and employability integral to the course through partnerships with industry and public sector partners.
- State of the art equipment including immersive visualisation and fabrication lab.

5. Relevant QAA Subject Benchmark Group(s)

QAA subject benchmarks do not exist for this subject. However, generic QAA FHEQ benchmarks for Level 7: masters (specialised/advanced study) are as follows:

Descriptor for a higher education qualification at level 7 on the FHEQ and SCQF level 11 on the FQHEIS: master's degree

The descriptor provided for this level of the framework is for any master's degree which should meet the descriptor in full. This qualification descriptor should also be used as a reference point for other qualifications at level 7/ SCQF level 11 on the FQHEIS, including postgraduate certificates and postgraduate diplomas.

QAA FHEQ descriptors

Master's degrees are awarded to students who have demonstrated:

- a systematic understanding of knowledge, and a critical awareness of current problems and/or new insights, much of which is at, or informed by, the forefront of their academic discipline, field of study or area of professional practice
- a comprehensive understanding of techniques applicable to their own research or advanced scholarship
- originality in the application of knowledge, together with a practical understanding of how established techniques of research and enquiry are used to create and interpret knowledge in the discipline conceptual understanding that enables the student:
    - to evaluate critically current research and advanced scholarship in the discipline;
    - to evaluate methodologies and develop critiques of them and, where appropriate, to propose new hypotheses.

Typically, holders of the qualification will be able to:

- deal with complex issues both systematically and creatively, make sound judgements in the absence of complete data, and
- communicate their conclusions clearly to specialist and non-specialist audiences
- demonstrate self-direction and originality in tackling and solving problems, and act autonomously in planning and implementing tasks at a professional or equivalent level
- continue to advance their knowledge and understanding, and to develop new skills to a high level.

And holders will have:

- the qualities and transferable skills necessary for employment requiring:
- the exercise of initiative and personal responsibility
- decision-making in complex and unpredictable situations
- the independent learning ability required for continuing professional development.

6. Programme Structure

MA Smart Urban Futures
Programme structure (FULL TIME)

Core **Skills**

SEMESTER 1

SURF 701 30 credits
Design Lab I

DAT701 30 credits
Invisible Architectures

SEMESTER 2

SURF 703 30 credits
Design Lab P

SURF 704 30 credits
Futures Entrepreneurship

(delivered through Business School beta Entrepreneurship Module)

SEMESTER 3

SURF 705 60 credits
Research Project/Dissertation

MA Smart Urban Futures
Programme structure (PART TIME)
YEAR 1

Core **Skills**

SEMESTER 1

DAT701 30 credits
Invisible Architectures

SEMESTER 2

SURF 703 30 credits
Design Lab P

MA Smart Urban Futures
Programme structure (PART TIME)
YEAR 2

Core

SEMESTER 1

SURF 701 30 credits
Design Lab I

SEMESTER 2

Skills

SURF 704 30 credits
Futures Entrepreneurship

(delivered through Business School beta Entrepreneurship Module)

SEMESTER 3

SURF 705 60 credits
Research Project/Dissertation

7. Programme Aims

The MA Smart Urban Futures is a one-year full time (two year part-time) programme focussed on the design of smart technologies and approaches integrated into the urban space. The programme aims to provide students with an opportunity to develop an understanding of the potential ways in which this can happen and design abilities into how to achieve this through a design focussed approach. The core of the course is a design lab which takes a co-design approach to working with a range of multi-disciplinary partners to address real world socio-spatial opportunities and challenges in the city. The course aims to equip students for a future workspace and in emerging markets through developing entrepreneurial and innovation skills within a business context.

The aims of the programme are to enable students:

- To gain a systematic understanding of the inter-relationship of cities and technologies and to develop responses for the design of cities that create interfaces and interactions between people, digital and smart technologies and the urban space.
- To design and undertake substantial investigations that address the challenge of cities and technologies, by flexibly and creatively applying knowledge to address socio—spatial urban issues, opportunities and challenges.
- To apply knowledge and skills from the programme into relevant real world contexts, by identifying the appropriate resources, skills and partners needed to achieve this.
- To employ co-design working with a range of multidisciplinary partners, using originality in tackling and solving problems through an entrepreneurial approach.
- To act with initiative to test and critically evaluate their work, to make connections and to communicate project outcomes in a range of complex and specialised contexts.

8. Programme Intended Learning Outcomes

The learning outcomes are in line with SEEC Level 7 level descriptors.

8.1 Knowledge and understanding

On successful completion graduates should:

1) Have a deep and systematic understanding within the field of study and its interrelationship with other relevant disciplines.

2) Demonstrate(s) an understanding of current theoretical and methodological approaches and how these affect the way the knowledge base is interpreted.

8.2 Cognitive and intellectual skills

On successful completion graduates should have developed:

1) Conceptualisation and Critical Thinking
   Uses ideas at a high level of abstraction.
   Develops critical responses to existing theoretical discourses, methodologies or practices and suggests new concepts or approaches

2) Problem Solving, Research & Enquiry
   Designs and undertakes substantial investigations to address significant areas of theory and/or practice. Selects appropriate advanced methodological approaches and critically evaluates their effectiveness.

3) Synthesis and creativity
   Flexibly and creatively applies knowledge in unfamiliar contexts, synthesises ideas or information in innovative ways, and generates transformative solutions.

4) Analysis and evaluation
   Undertakes analysis of complex, incomplete or contradictory evidence/data and judges the appropriateness of the enquiry methodologies used.
   Recognises and argues for alternative.

8.3 Key and transferable skills

On successful completion graduates should have developed the ability to:

1) Operational context
   Operate in complex and unpredictable and/or specialised contexts, requiring selection and application from a wide range of advanced techniques and information sources.

2) Autonomy and responsibility for actions
   Act with initiative in decision-making and accessing support, within professional or given guidelines, accepting full accountability for outcomes

3) Acquire strategies for self-improvement and continued learning to embed confidence, life skills and transferable skills for their future role as leading professionals.

4) Team working
   Collaborate with others as part of a creative team and contribute to the learning environment by effective listening, problem solving and empowering others.

8.4 Employment related skills

On successful completion graduates should have developed:

1) Adaptation to Context
   Autonomously adapts performance to multiple contexts.

2) Performance
   Autonomously implements and evaluates improvements to performance drawing on innovative or sectoral best practice.

3) Team and organizational working
   Works effectively with multiple teams as leader or member. Clarifies tasks and make appropriate use of the capacities of team members resolving likely conflict situations before they arise.

4) Ethical awareness & application
   Incorporates a critical ethical dimension to their practice, managing the implications of ethical dilemmas and works proactively with others to formulate solutions.

8.5 Practical skills

On successful completion graduates should have developed:

1) Autonomy and responsibility for actions Acts with initiative in decision-making and accessing support, within professional or given guidelines, accepting full accountability for outcomes

2) Personal evaluation and development
   Uses personal reflection to analyse self and own actions. Makes connections between known and unknown areas, to allow for adaptation and change.

1) Interpersonal and communication skills
   Identifies, evaluates and maintains capabilities and qualities to support effective communication in a range of complex and specialised contexts.

10. Admissions Criteria, including APCL, APEL and DAS arrangements

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

Entry Requirements for MA Smart Urban Futures
Normally a 2:1 degree from a UK University or equivalent and evidence of a sustained engagement with the field. But we will consider students below 2:1 if they can demonstrate a strong academic portfolio or a record of professional experience. IELTS score of 6.5 or equivalent required for overseas students.
Applicants will be required to submit an outline of their experience together with a 500 word contextualisation statement. (If required, applicants may also be asked to attend an interview either in person or through a remote link up if international students.)
The University also has substantial experience in supporting mature students and welcomes applicants in this category. Applicants with APL will be considered on an individual basis according to the University Regulations Framework. Students interested in transferring postgraduate credits will be considered on merit and current University regulations regarding transfer of credits from other institutions will apply.

11. Progression criteria for Final and Intermediate Awards

Students undertaking the MA Smart Urban Futures must achieve a pass (50%) in all modules. There is no compensation for failed modules.

Where a student has achieved an aggregate of 70%, they will be awarded MA Smart Urban Futures with Distinction.

Where a student has achieved an aggregate of 60%, they will be awarded MA Smart Urban Futures with Merit.

Where a student has passed 120 credits of the programme they will be awarded a Postgraduate Diploma.

Where a student has passed 60 credits of the programme they will be awarded Postgraduate Certificate.

12. Exceptions to Regulations

None

13. Transitional Arrangements

None

14. Mapping

ILO’s against Modules Mapping

Assessment against Modules Mapping

Learning Outcomes Map

	FHEQ Descriptors	Subject Benchmark(s)	Programme Aims	Programme Outcomes	Core Modules linked to outcomes	Assessment Elements and Weighting(s) [use KIS definition] E1 - exam E2 - clinical exam T1 - test C1 - coursework A1 - generic assessment P1 - practical
	Display mastery of a complex and specialised area of knowledge and skills, employing advanced skills to conduct research, or advanced technical or professional activity, accepting accountability for related decision making, including use of supervision.					
1.0	***Students will have demonstrated:*** A systematic understanding of key aspects of their field of study, including acquisition of coherent and detailed knowledge, at least some of which is at, or informed	An in-depth knowledge and understanding of the discipline informed by current scholarship and research, including a critical awareness of	To gain a systematic understanding of the inter-relationship of cities and technologies and to develop responses for the design of cities that create interfaces and interactions between people, digital and smart technologies and the urban	**Knowledge and understanding** Has a deep and systematic understanding within the field of study and its interrelationship with other relevant disciplines.	DAT701 SURF705	C1- 100%

	by, the forefront of defined aspects of a discipline;	current issues and developments in the subject.	space.			
	Students will have demonstrated: An ability to deploy accurately established techniques of analysis and enquiry within a discipline;			**Knowledge and understanding** Demonstrates an understanding of current theoretical and methodological approaches and how these affect the way the knowledge base is interpreted.		
	Students will have demonstrated: Conceptual understanding to enable them to (a) devise and sustain arguments and/or solve problems, using ideas and techniques, some of which are at the forefront of a discipline; (b) describe and comment upon particular aspects of current research or equivalent advanced scholarship in the discipline; An appreciation of the uncertainty, ambiguity and limits of knowledge; The ability to manage their own learning and to make use of scholarly reviews and primary sources;			**Cognitive and intellectual skills** Uses ideas at a high level of abstraction. Develops critical responses to existing theoretical discourses, methodologies or practices and suggests new concepts or approaches		
2.0	***Students will be able to:*** Apply the methods and techniques that they have	The ability to use a range of techniques and	To design and undertake substantial investigations that address the challenge of cities	**Cognitive and intellectual skills** Problem Solving, Research &	SURF702 SURF705	C1- 100%

	learned to review, consolidate, extend and apply their knowledge and understanding, and to initiate and carry out projects; Critically evaluate arguments, assumptions, abstract concepts and data, to make judgements, and to frame appropriate questions to achieve a solution or a range of solutions to a problem; Communicate information, ideas, problems and solutions to both specialist and non-specialist audiences.	research methods applicable to advanced scholarship in the subject.	and technologies, by flexibly and creatively applying knowledge to address socio—spatial urban issues, opportunities and challenges.	Enquiry: Designs and undertakes substantial investigations to address significant areas of theory and/or practice. Selects appropriate advanced methodological approaches and critically evaluates their effectiveness.		
	Students will also have: The qualities and transferable skills necessary for employment requiring (a) the exercise of initiative and personal responsibility (b) decision-making in complex and unpredictable contexts (c) the learning ability needed to undertake appropriate further training of a professional or equivalent nature.			**Cognitive and intellectual skills** Synthesis and creativity Flexibly and creatively applies knowledge in unfamiliar contexts, synthesises ideas or information in innovative ways, and generates transformative solutions.		
				Cognitive and intellectual skills Analysis and evaluation		

				Undertakes analysis of complex, incomplete or contradictory evidence/data and judges the appropriateness of the enquiry methodologies used. Recognises and argues for alternative.		
3.0	***Students will have demonstrated:*** A systematic understanding of knowledge, and a critical awareness of current problems and/or new insights at or informed by the forefront of their academic disciplines, field of study or area of professional practice; A comprehensive understanding of techniques applicable to their own research or advanced scholarship; Conceptual understanding that enables the student (a) to evaluate critically current research and advanced scholarship in the discipline (b) to evaluate methodologies and develop critiques of them and where appropriate to propose new hypotheses.	The ability to study independently in the subject The ability to: Solve problems in creative and innovative ways The ability to: To use initiative and take responsibility	To apply knowledge and skills from the programme into relevant real world contexts, by identifying the appropriate resources, skills and partners needed to achieve this.	**Key and transferable skills** Operational context Operates in complex and unpredictable and/or specialised contexts, requiring selection and application from a wide range of advanced techniques and information sources.	SURF703 SURF 705	C1- 100%

	Students will have demonstrated: Originality in the application of knowledge, together with a practical understanding of how established techniques of research and enquiry are used to create an interpret knowledge in the discipline;			**Key and transferable skills** Autonomy and responsibility for actions Acts with initiative in decision-making and accessing support, within professional or given guidelines, accepting full accountability for outcomes		
				Key and transferable skills Team working Collaborate with others as part of a creative team and contribute to the learning environment by effective listening, problem solving and empowering others.		
4.0	***Students will be able to:*** Deal with complex issues both systematically and creatively make sound judgements in the absence of complete data, and communicate their conclusions clearly to specialist and non-specialist audiences;	The ability to: make decisions in challenging situations The ability to: communicate effectively, with colleagues and a wider audience, in a variety of media.	To use co-design working with a range of multidisciplinary partners, using originality in tackling and solving problems through an entrepreneurial approach.	**Employment related skills** Adaptation to Context Autonomously adapts performance to multiple contexts.	SURF704 SURF705	C1- 100%
	Students will be able to: Demonstrate self-direction and originality in tackling and solving problems, and act autonomously in planning and implementing tasks at a professional or equivalent level;			**Employment related skills** Performance Autonomously implements and evaluates improvements to performance drawing on innovative or sectoral best practice.		

	Students will be able to: Continue to advance their knowledge and understanding, and to develop new skills to a high level.			**Employment related skills** Team and organizational working Works effectively with multiple teams as leader or member. Clarifies tasks and make appropriate use of the capacities of team members resolving likely conflict situations before they arise.		
				Employment related skills Ethical awareness & application Incorporates a critical ethical dimension to their practice, managing the implications of ethical dilemmas and works proactively with others to formulate solutions.		
5.0	***Students will be able to:*** Deal with complex issues both systematically and creatively make sound judgements in the absence of complete data, and communicate their conclusions clearly to specialist and non-specialist audiences; Demonstrate self-direction and originality in tackling and solving problems, and act autonomously in planning and implementing tasks at a professional or equivalent level; Continue to advance their	The ability to: continue to learn independently and to develop professionally	To act with initiative to test and critically evaluate the work, to make connections and to communicate project outcomes in a range of complex and specialised contexts.	**Practical skills** Autonomy and responsibility for actions Acts with initiative in decision-making and accessing support, within professional or given guidelines, accepting full accountability for outcomes	SURF705	C1- 100%

	knowledge and understanding, and to develop new skills to a high level.					
	Students will also have: The qualities and transferable skills necessary for employment requiring (a) the exercise of initiative and personal responsibility; (b) decision-making in complex and unpredictable situations; (c) the independent learning ability required for continuing professional development.			**Practical skills** Personal evaluation and development Uses personal reflection to analyse self and own actions. Makes connections between known and unknown areas, to allow for adaptation and change.		
				Practical skills Interpersonal and communication skills Identifies, evaluates and maintains capabilities and qualities to support effective communication in a range of complex and specialised contexts.		