

BSc (Hons) Creative Computing (and pathways)

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Awarding institution	Bath Spa University
Teaching institution	Bath Spa University
School	School of Creative Industries
Main campus	Newton Park
Other sites of delivery	Artswork Media, Paintworks
Other Schools involved in delivery	School of Design
Name of award(s)	Creative Computing
Qualification (final award)	BSc (Hons) Creative Computing (Animation) BSc (Hons) Creative Computing (Games) BSc (Hons) Creative Computing (Web Technologies) BSc (Hons) Combined Awards (Major/Joint /Minor)
Intermediate awards available	BSc (Creative Computing: Named Routes) Diploma of Higher Education (Creative Computing: Named Routes) Certificate of Higher Education (Creative Computing)

Routes available	Single Honours pathways Combined Awards: Joint/Major/Minor
Professional Placement Year	Optional
Duration of award	3 years full-time, 4 years with Professional Placement Year
Modes of delivery offered	Campus-based
Regulatory Scheme ^[1]	Undergraduate Academic Framework
Exemptions from regulations/framework[2]	N/A
Professional, Statutory and Regulatory Body accreditation	N/A
Date of most recent PSRB approval (month and year)	N/A
Renewal of PSRB approval due (month and year)	N/A
UCAS code	Animation: T6M2 Gaming: 6T3D Web Technologies: TT17
Route code (SITS)	CCANSPS (Animation) CCGMSPS (Gaming) CCWTSPS (Web Technologies)
Relevant QAA Subject Benchmark Statements (including date of publication)	Computing (February 2016)
Date of most recent approval	May 2018
Date specification last updated	June 2019

^[1] This should also be read in conjunction with the University's Qualifications Framework

[2] See section on 'Exemptions'

Exemptions

There are no exemptions

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Programme Overview

Creative Computing celebrates and interrogates the collision of creativity and technology. The results are novel and surprising, yet useful, and feature computing as a tool to enhance human creativity or help address real world problems.

The goal of BSc (Hons) Creative Computing is to develop versatile and imaginative creative technologists. We teach you how to craft ideas, shape interactive experiences, design for audiences, programme intelligently and evaluate critically. Our key aim is to help you develop a unique balance of technical proficiency and creative flair that is both rare and valued across the digital sector.

Module content within Creative Computing targets the following themes:

- Programming
- Interactive Storytelling
- Creative Problem Solving
- Emerging Technologies
- Experience Design
- Industry Insight
- Collaboration
- Digital Citizenship

Themes are engaged through teaching methods that extend beyond typical lectures and seminars. You participate in co-creation projects, debating forums, full-day creative challenges and rapid prototyping workshops to gain a production-led understanding of creative computing. Assessment is focused similarly on context, making and evaluation. You deliver portfolios of creative content, present showcase artefacts, negotiate technical tasks, and write commentaries that position and reflect critically on digital work.

Creative Computing engages digital creativity via pathways in *Animation, Gaming* and *Web Technologies*. Pathway modules commence in years 2 and 3, following a common curriculum in year 1 that covers procedural programming, experience design, creative problem solving and media making. There is an opportunity to switch your at the end of year 1 to reflect emerging interests.

Year 2 exposes the production methods and technologies deployed within professional games, animation and web development studios. Pathway learning includes the fundamentals of game making, motion graphics and responsive web design, while core/optional modules provide space for you to interact with creative companies and experiment with emerging computing technologies.

Year 3 is about kickstarting your career. The focus here is on creative research and commercial thinking, with much of your time allocated to developing a compelling, industry-focused portfolio of creative computing artefacts. Core and optional modules deepen your understanding of your pathway specialism, introduce the essentials of cyber security and provide opportunities to collaborate on live briefs set by some of the most forward-thinking and imaginative digital companies in the region.

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Programme Aims

1. Knowledge – to support an understanding of the concepts, principles and practices within the field of creative computing.
2. Computational Thinking – to develop methodical individuals who can deconstruct complex technical and creative problems into manageable and solvable steps.
3. Critical Thinking – to cultivate eloquent, reflective practitioners who can contextualise ideas clearly, evaluate artefacts critically and review personal development constructively.
4. Collaboration – to encourage and facilitate creative collaboration across fields of study and with industry partners.
5. Practice – to develop individuals who have the technical proficiency and creative flair to engage multiple forms of digital creativity in novel and surprising ways.
6. Process – to advance methods of ideation, experimentation, testing, iteration and presentation that underpin the successful actuation of a creative concept.
7. Employability – to inspire adaptable, life long learners who possess the imagination, interpersonal skills and entrepreneurial spirit needed to contribute to the creative economy.
8. Digital Citizenship – to promote the practice of responsible, ethical, secure and fair use of computing across all personal, academic and professional activity.

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Programme Intended Learning Outcomes (ILOs)

A Subject-Specific Skills and Knowledge

	Programme Intended Learning Outcomes (ILOs) On Achieving Level 6	On Achieving Level 5	On Achieving Level 4
A1	Coding – identify and assimilate new programming techniques and languages as required to address an original problem in the field of creative computing.	Coding – implement the core features of object orientated programming.	Coding – implement the core features of procedural programming and web development.
A2	Creativity – advance linear and non-linear narratives within the context of digital creativity that serve to inform, persuade or entertain.	Creativity – devise short-form artefacts that engage multiple forms of digital creativity.	Creativity – practice a range of ideation and creative problem solving strategies.
A3	Practice – conceive and actualise an original creative computing artefact that has commercial potential.	Practice – experiment with nascent concepts and technologies in the field of creative computing.	Practice – deploy industry standard tools and techniques to produce short-form creative computing artefacts.
A4	Process – establish a personal approach to artefact creation that reflects the design and production methodologies found in industry.	Process – apply an iterative design cycle of prototyping, testing, analysing and refinement.	Process – engage key methods of project planning and content generation.
A5	Design – consolidate established and emerging experience design principles to generate original creative computing artefacts that target a specific audience demographic.	Design – prototype creative computing artefacts that adhere to the key principles of experience design.	Design – demonstrate an understanding of the key principles of experience design.
A6	Collaboration – respond skilfully to creative computing briefs in partnership with peers and industry.	Collaboration – contextualise and generate creative content in collaboration with peers.	Collaboration – propose solutions to technical and creative problems in partnership with peers.
A7	Systems – research, select and configure a range of computing systems for a creative application, while negotiating requirements, time/budget constraints, trade-off and reliability.	Systems – specify the key features, opportunities and challenges proposed by emerging technologies.	Systems – describe the core features of contemporary computing systems.

B Cognitive and Intellectual Skills

	Programme Intended Learning Outcomes (ILOs) On Achieving Level 6	On Achieving Level 5	On Achieving Level 4
B1	Computational Thinking – deconstruct abstract, real-world problems into their key components, and propose solutions that feature the creative application of computing.	Computational Thinking – reduce complicated creative briefs into discrete design and technical tasks.	Computational Thinking – break down simple programming problems into small and solvable steps.
B2	Critical Thinking – filter, collect, interpret and synthesis data from a range of structured and unstructured sources, then draw conclusions that inform the direction of original work.	Critical Thinking – extract insights from print and online sources to establish a critical position on a given topic.	Critical Thinking – contextualise creative and technical work by drawing comparisons with existing artefacts.
B3	Reflection – undertake an in-depth review of performance across both individual and collaborative activity, and derive a personal development strategy that extends beyond graduation.	Reflection – resolve the successes and limitations of a creative computing solution, and identify personal learning and development opportunities.	Reflection – comment on personal work and the work of others with maturity.
B4	Employability – showcase work adeptly and with a focus on promotion to both peer and public audiences.	Employability – assess the value of original ideas against current and emerging industry trends.	Employability – deploy key planning and organisational strategies.
B5	Digital Citizenship – strategise and maintain ethical practices during the research, design, production and testing of digital work.	Digital Citizenship – comply with regulations that concern the use, attribution and dissemination of original and derivative work.	Digital Citizenship – respond to themes of responsibility, ethics, security and fair use in the context of computing.

C Skills for Life and Work

	Programme Intended Learning Outcomes (ILOs) On Achieving Level 6	On Achieving Level 5	On Achieving Level 4
C1	Autonomous learning[3] (including time management) that shows the exercise of initiative and personal responsibility and enables decision-making in complex and unpredictable contexts.	Autonomous learning (including time management) as would be necessary for employment requiring the exercise of personal responsibility and decision-making such that significant responsibility within organisations could be assumed.	Autonomous learning (including time management) as would be necessary for employment requiring the exercise of personal responsibility.
C2	Team working skills necessary to flourish in the global workplace with an ability both to work in and lead teams effectively.	Team work as would be necessary for employment requiring the exercise of personal responsibility and decision-making for effective work with others such that significant responsibility within organisations could be assumed.	Team work as would be necessary for employment requiring the exercise of personal responsibility for effective work with others.

C3	Communication skills that ensure information, ideas, problems and solutions are communicated effectively and clearly to both specialist and non-specialist audiences.	Communication skills commensurate with the effective communication of information, arguments and analysis in a variety of forms to specialist and non-specialist audiences in which key techniques of the discipline are deployed effectively.	Communication skills that demonstrate an ability to communicate outcomes accurately and reliably and with structured and coherent arguments.
C4	IT skills and digital literacy that demonstrate core competences and are commensurate with an ability to work at the interface of creativity and new technologies.	IT skills and digital literacy that demonstrate the development of existing skills and the acquisition of new competences.	IT skills and digital literacy that provide a platform from which further training can be undertaken to enable development of new skills within a structured and managed environment.

[3] i.e. the ability to review, direct and manage one's own workload

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Programme Content

This programme comprises the following modules:

Key:

Core = C

Required = R

Required* - R*

Optional = O

Not available for this status = N/A

Creative Computing Combined Award				Route			
Level	Code	Title	Credits	Single Honours	Major	Joint	Minor
4	CCO4000-20	CodeLab I	20		C	C	C
4	CCO4001-20	Web Development	20		C	C	C
4	CCO4002-20	Experience Design	20		O	O	N/A
4	CCO4003-20	Ideation and Creative Problem Solving	20		O	O	N/A
4	CCO4004-20	Introduction to Computing	20		O	O	N/A
4	CCO4100-20	Digital Storytelling	20		O	O	N/A
4	CCO4101-20	Image, Sound and Code	20		O	O	N/A
5	CCO5000-20	CodeLab II	20		C	C	C
5	CCO5001-20	Emerging Technologies	20		C	C	C
5	CCO5002-20	Creative Industry Challenge	20		O	O	N/A
5	CCO5003-20	Computer 3D Modelling and Visualisation	20		O	O	N/A
5	CCO5100-20	Games Development	20		O	O	N/A
5	CCO5102-20	Smartphone Apps	20		O	O	N/A
5	CCO5004-20	Motion Graphics and Sound	20		O	N/A	N/A
5	CCO5101-20	Games Studio	20		O	N/A	N/A
5	CCO5103-20	The Responsive Web	20		O	N/A	N/A
5	PPY5100-120	Professional Placement Year	120		O	O	O
6	CCO6000-20	Applied Computing	20		C	C	C
6	CCO6001-20	Creative Incubator	20		C	C	C
6	CCO6002-20	Cyber Security	20		O	O	N/A

6	CCO6100-20	Web Games	20		O	O	N/A
6	CCO6101-20	Physical Computing	20		O	O	N/A
6	CCO6007-20	Realtime Animation and Interactivity	20		O	N/A	N/A
6	CCO6008-20	Virtual and Augmented Reality	20		O	N/A	N/A
6	CCO6003-20	Serious Games	20		O	N/A	N/A
6	CCO6004-20	Commercial Games	20		O	N/A	N/A
6	CCO6005-20	Web Apps	20		O	N/A	N/A
6	CCO6006-20	Tomorrow's Web	20		O	N/A	N/A

Creative Computing				Pathway		
Level	Code	Title	Credits	Animation	Gaming	Web Technologies
4	CCO4000-20	CodeLab I	20	C	C	C
4	CCO4001-20	Web Development	20	C	C	C
4	CCO4002-20	Experience Design	20	R	R	R
4	CCO4003-20	Ideation and Creative Problem Solving	20	R	R	R
4	CCO4004-20	Introduction to Computing	20	R	R	R
4	CCO4100-20	Digital Storytelling	20	O	O	O
4	CCO4101-20	Image, Sound and Code	20	O	O	O
5	CCO5000-20	CodeLab II	20	C	C	C
5	CCO5001-20	Emerging Technologies	20	C	C	C
5	CCO5002-20	Creative Industry Challenge	20	R	R	R
5	CCO5003-20	Computer 3D Modelling and Visualisation	20	R	O	O
5	CCO5004-20	Motion Graphics and Sound	20	R	N/A	N/A
5	CCO5100-20	Games Development	20	O	R	O
5	CCO5101-20	Games Studio	20	N/A	R	N/A
5	CCO5102-20	Smartphone Apps	20	O	O	R
5	CCO5103-20	The Responsive Web	20	N/A	N/A	R
5	PPY5100-120	Professional Placement Year	120	O	O	O
6	CCO6000-20	Applied Computing	20	C	C	C
6	CCO6001-20	Creative Incubator	20	C	C	C
6	CCO6002-20	Cyber Security	20	R	R	R

6	CCO6007-20	Realtime Animation and Interactivity	20	R	N/A	N/A
6	CCO6008-20	Virtual and Augmented Reality	20	R	N/A	N/A
6	CCO6003-20	Serious Games	20	N/A	R	N/A
6	CCO6004-20	Commercial Games	20	N/A	R	N/A
6	CCO6005-20	Web Apps	20	N/A	N/A	R
6	CCO6006-20	Tomorrow's Web	20	N/A	N/A	R
6	CCO6100-20	Web Games	20	O	O	O
6	CCO6101-20	Physical Computing	20	O	O	O

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Assessment methods

A range of summative assessment tasks is used to test the Intended Learning Outcomes (ILOs) in each module. These activities comprise individual and collaborative projects that feature creativity, programming, visual design, experience design, research, documentation, presentation and critical reflection. Shorter formative exercises such as mini coding challenges, design tasks and pitches support your development towards summative assessment.

The attached 'Map of Module Outcomes' and 'Assessment Map' indicate how Intended Learning Outcomes, assessment types and modules topics interact.

Please note: if you choose an optional module from outside this programme, you may be required to undertake a summative assessment task that does not appear in the assessment map in order to pass that module.

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Work experience and placement opportunities

There are several opportunities to engage with industry across the programme. We encourage you to take advantage of:

- Summer placement schemes
- Live briefs within such modules as Creative Industry Challenge and Creative Incubator
- Creative and technical work as part of Creative Computing commissioned projects
- Roles with university-led external projects that cross subject areas
- Personal commissioned work with support from the Creative Computing team
- Invites to attend or participate in gaming conventions, tech shows and IT meetups

BSc Creative Computing (and pathways) can also be taken as a 'Sandwich' degree, which is studied over 4 years and includes a year long work placement in a sector of your choice. The placement year is completed between years 2 and 3 of your degree and counts for 120 Level 5 credits. During this time you will be able to utilise knowledge gained as part of your studies in a real work environment to gain 'hands on' experience. The university has a dedicated Careers & Employability team to help you find and prepare for a placement. Following your placement year, you will return to University to complete your final year of study.

Opportunities to study abroad via the Erasmus+, International Exchange and Study Abroad programmes are also available.

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Graduate Attributes

	Bath Spa Graduates...	In Creative Computing, we enable this...
1	Will be employable: equipped with the skills necessary to flourish in the global workplace, able to work in and lead teams	By exposing the tools and skills you need to become an effective communicator and confident collaborator
2	Will be able to understand and manage complexity, diversity and change	By teaching core ideation, design, development, testing and marketing skills that can be applied across all projects that deploy technology creativity
3	Will be creative: able to innovate and to solve problems by working across disciplines as professional or artistic practitioners	By supporting creative projects that you undertake with students studying other subjects or pathways of Creative Computing
4	Will be digitally literate: able to work at the interface of creativity and technology	By providing significant and varied production-led exposure to a range of industry standard (and emerging) tools and technologies
5	Will be internationally networked: either by studying abroad for part of the their programme, or studying alongside students from overseas	By encouraging you to apply for the Erasmus+, International Exchange and Study Abroad programmes offered by Bath Spa University
6	Will be creative thinkers, doers and makers	By assessing your creative development through project work, and offering structured opportunities for collaboration with the creative industries

7	Will be critical thinkers: able to express their ideas in written and oral form, and possessing information literacy	By sharing techniques and best practices that help you develop accurate and probing reflective essays, creative portfolios, pitches and research papers
8	Will be ethically aware: prepared for citizenship in a local, national and global context	By helping you adopt practices of digital citizenship that champion the safe, fair and ethical use of technology in both work and daily life

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Modifications

Module-level modifications

Code	Title	Nature of modification	Date(s) of approval and approving bodies	Date modification comes into effect
CCO500 2-20*	Creative Industry Challenge	Change to module status	CoLA Learning, Teaching and Quality Sub-committee, 3 April 2019	2019/20
CCO600 2-20*	Cyber Security	Change to module status	CoLA Learning, Teaching and Quality Sub-committee, 3 April 2019	2019/20
CCO500 0-20	Code Lab II	change to assessment	approved by Creative Industries SQMC 26th November 2019	2020/21
CCO400 5-20	Digital Citizenship	Change module status	approved by SQMC 13th November 2019	2020/21
CCO400 5-20	Digital Citizenship	Module Deleted	approved by SQMC March 2020	2020/21

*Modification to clarify that these modules are not available as options to Minor students

Programme-level modifications

Nature of modification	Date(s) of approval and approving bodies	Date modification comes into effect

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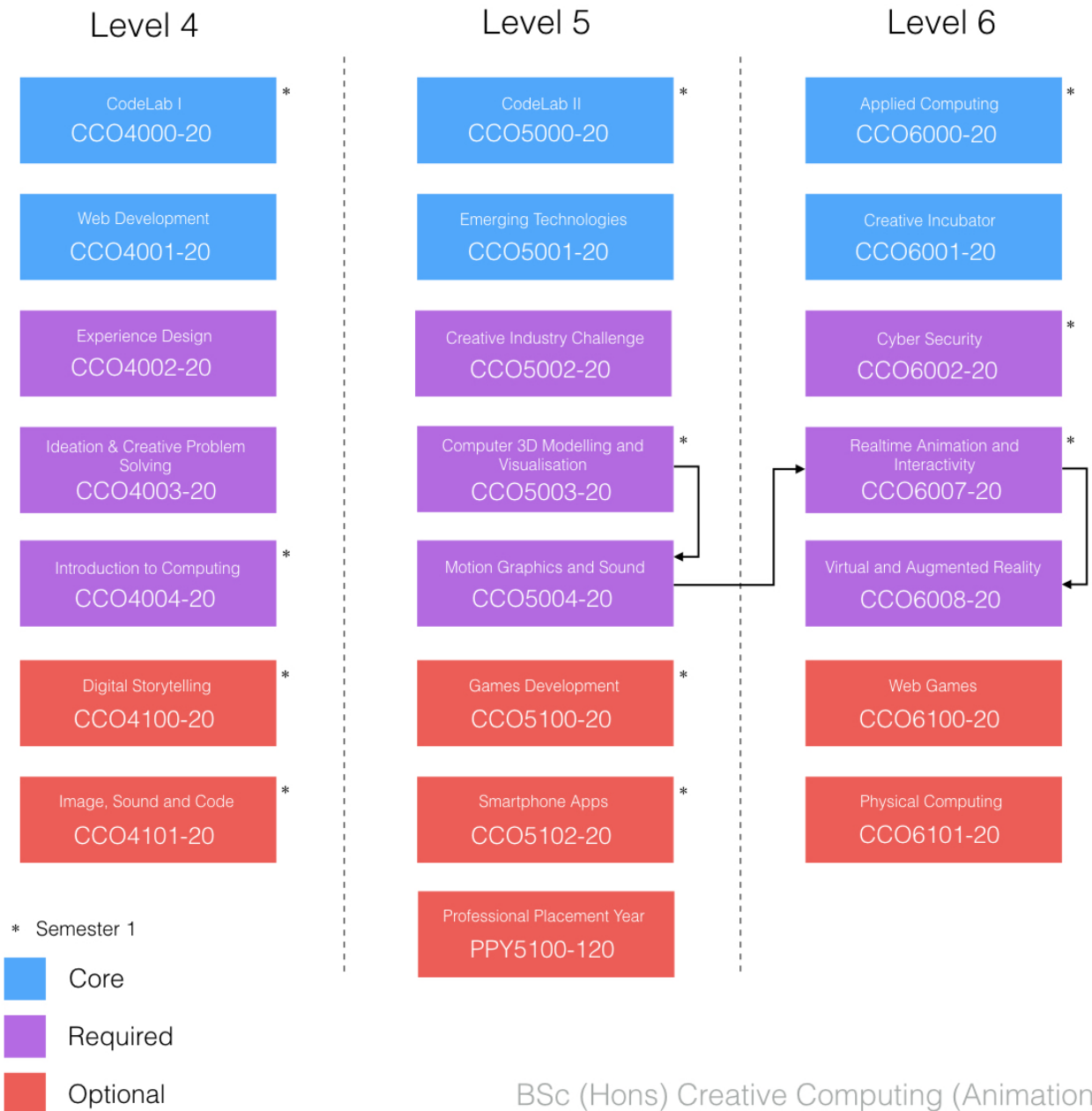
Attached as appendices:

1. Programme structure diagram
2. Map of module outcomes to level/programme outcomes
3. Assessment map
4. Module descriptors

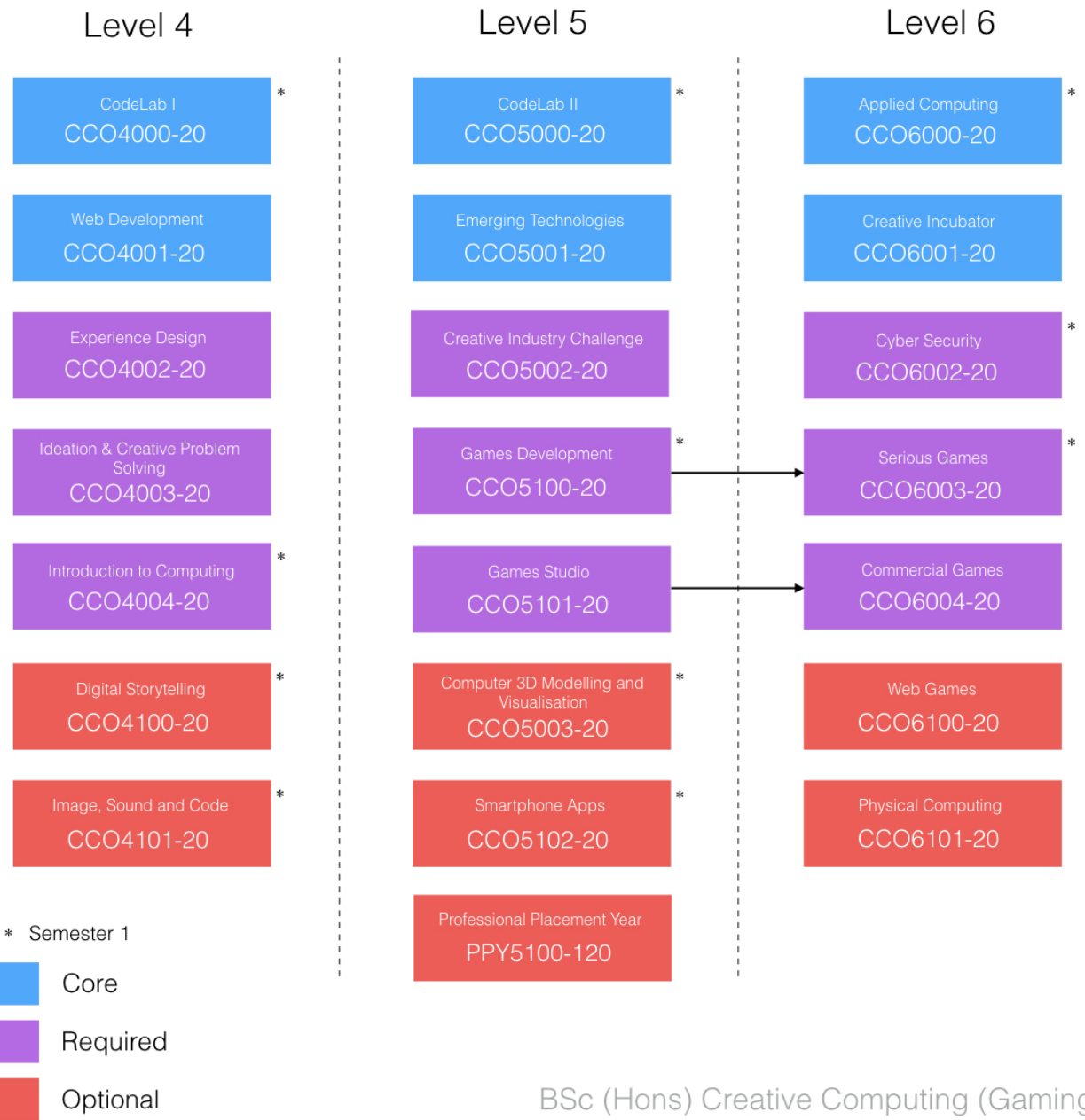
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Appendix 1: Programme Structure Diagram - BSc (Hons) Creative Computing

Creative Computing (Animation)



Creative Computing (Gaming)



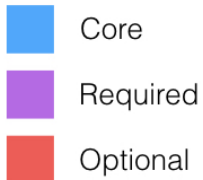
BSc (Hons) Creative Computing (Gaming)

Web Technologies

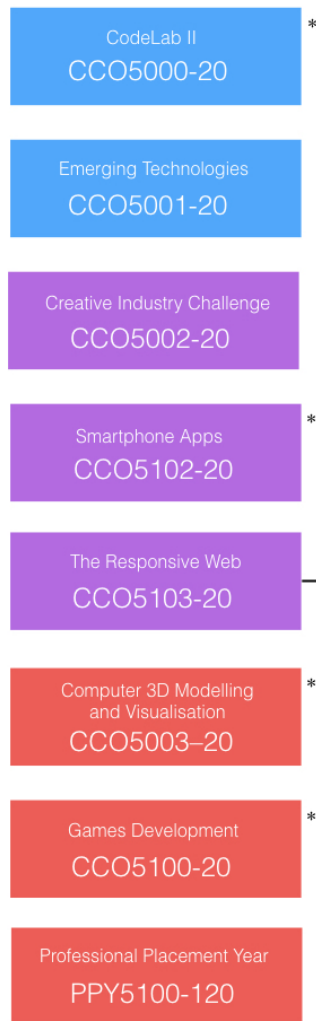
Level 4



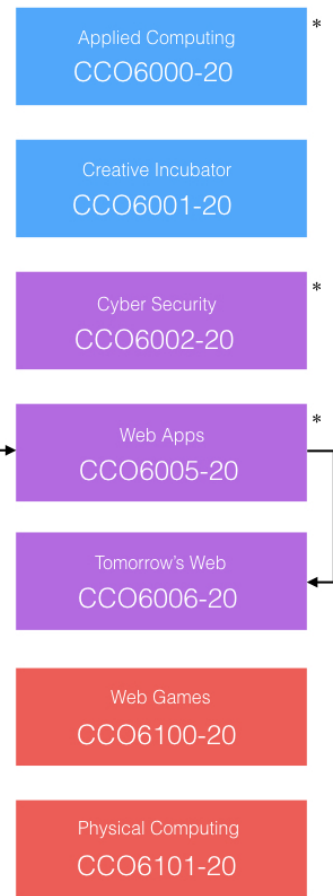
* Semester 1



Level 5



Level 6



BSc (Hons) Creative Computing (Web Technologies)

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Appendix 2: Map of Intended Learning Outcomes

Level	Module Code	Module Title	Status (C,R,R*,O) ^[4]	Intended Learning Outcomes															
				Subject-specific Skills and Knowledge							Cognitive and Intellectual Skills					Skills for Life and Work			
				A1	A2	A3	A4	A5	A6	A7	B1	B2	B3	B4	B5	C1	C2	C3	C4
4	CCO4000-20	CodeLab I	C	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
4	CCO4001-20	Web Development	C	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
4	CCO4002-20	Experience Design	R/O			x	x		x	x	x	x	x	x	x	x	x	x	
4	CCO4003-20	Ideation and Creative Problem Solving	R/O		x		x		x			x	x	x		x	x	x	
4	CCO4004-20	Introduction to Computing	R/O		x		x		x	x	x		x	x	x		x		
4	CCO4100-20	Digital Storytelling	O		x	x	x	x	x			x	x	x	x	x	x	x	
4	CCO4101-20	Image, Sound and Code	O	x	x	x	x	x	x		x	x	x	x	x	x	x	x	
5	CCO5000-20	CodeLab II	C	x	x		x	x			x	x	x		x	x		x	
5	CCO5001-20	Emerging Technologies	C		x	x	x	x	x	x	x	x	x	x	x	x	x	x	
5	CCO5002-20	Creative Industry Challenge	R/O		x		x	x	x		x		x	x	x	x	x	x	
5	CCO5003-20	Computer 3D Modelling and Visualisation	R/O		x	x	x				x	x	x	x	x	x		x	
5	CCO5004-20	Motion Graphics and Sound	R/O		x	x	x				x		x		x	x		x	
5	CCO5100-20	Games Development	R/O	x	x		x	x			x		x	x	x	x	x	x	
5	CCO5101-20	Games Studio	R/O	x	x	x	x	x	x	x	x		x	x	x	x	x	x	
5	CCO5102-20	Smartphone Apps	R/O	x	x	x	x	x		x	x		x	x	x		x	x	
5	CCO5103-20	The Responsive Web	R/O	x	x	x	x	x		x	x		x		x	x		x	
5	PPY5100-120	Professional Placement Year	O													x	x	x	
6	CCO6000-20	Applied Computing	C	x	x	x	x	x		x	x	x	x	x	x	x		x	
6	CCO6001-20	Creative Incubator	C	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
6	CCO6002-20	Cyber Security	R/O	x				x		x	x			x	x	x	x	x	
6	CCO6007-20	Realtime Animation and Interactivity	R/O	x			x	x		x		x		x		x		x	
6	CCO6008-20	Virtual and Augmented Reality	R/O	x	x		x	x	x	x	x					x	x	x	

6	CCO6003-20	Serious Games	R/O	x	x	x	x	x		x		x		x	x	x		x	x
6	CCO6004-20	Commercial Games	R/O	x	x	x	x	x	x	x	x	x		x	x	x	x	x	x
6	CCO6005-20	Web Apps	R/O	x	x	x	x	x		x	x	x			x	x		x	x
6	CCO6006-20	Tomorrow's Web	R/O	x	x	x	x	x		x	x	x	x		x	x		x	x
6	CCO6100-20	Web Games	O	x		x	x	x		x		x				x		x	x
6	CCO6101-20	Physical Computing	O	x		x		x		x	x	x				x		x	x

^[4] C = Core; R = Required (ie required for this route); R* = Required*; O = Optional

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Appendix 3: Map of Summative Assessment Tasks by Module

Level	Module Code	Module Title	Status (C,R,R*,O) ^[5]	Assessment method											
				Coursework				Practical				Written Examination			
				Portfolio	Essay	Journal	Report	Practical Project	Practical Skills	Presentation	Set exercises	Written Examination	In-class test (seen)	In-class test (unseen)	
4	CCO4000-20	CodeLab I	C				1x	1x				1x			
4	CCO4001-20	Web Development	C				1x	2x							
4	CCO4002-20	Experience Design	R/O					1x							
4	CCO4003-20	Ideation and Creative Problem Solving	R/O			1x			1x						
4	CCO4004-20	Introduction to Computing	R/O		1x							1x			
4	CCO4100-20	Digital Storytelling	O	1x				1x							
4	CCO4101-20	Image, Sound and Code	O					2x							
5	CCO5000-20	CodeLab II	C				1x	1x	1x						
5	CCO5001-20	Emerging Technologies	C	1x						1x					
5	CCO5002-20	Creative Industry Challenge	R/O	1x						1x					
5	CCO5003-20	Computer 3D Modelling and Visualisation	R/O				1x	1x							
5	CCO5004-20	Motion Graphics and Sound	R/O				1x	1x							
5	CCO5100-20	Games Development	R/O	1x						1x					

5	CCO5101-20	Games Studio	R/O				1x	1x		1x			
5	CCO5102-20	Smartphone Apps	R/O	1x			1x			1x			
5	CCO5103-20	The Responsive Web	R/O				1x	1x			1x		
5	PPY5100-120	Professional Placement Year	O	1x									
6	CCO6000-20	Applied Computing	C					1x		1x			
6	CCO6001-20	Creative Incubator	C	1x						1x			
6	CCO6002-20	Cyber Security	R/O				2x						
6	CCO6007-20	Realtime Animation and Interactivity	R/O				1x	1x					
6	CCO6008-20	Virtual and Augmented Reality	R/O				1x	1x					
6	CCO6003-20	Serious Games	R/O				1x	1x		1x			
6	CCO6004-20	Commercial Games	R/O	1x									
6	CCO6005-20	Web Apps	R/O				1x	1x					
6	CCO6006-20	Tomorrow's Web	R/O				1x	1x		1x			
6	CCO6100-20	Web Games	O		1x		1x	1x					
6	CCO6101-20	Physical Computing	O					1x	1x				

^[5] C = Core; R = Required (i.e. required for this route); R* = Required*; O = Optional

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