

2024 / 25

School of Science and Computing

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South East
Technological
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Module Descriptor

Creative Programming Fundamentals 1 (Computing and Mathematics)

Creative Programming Fundamentals 1

(A13726)

Short Title: Creative Programming 1
Department: Computing and Mathematics
Credits: 5

Level: Introductory

Description of Module / Aims

This module puts a strong emphasis on the fundamental concepts of programming whilst expressing them through a highly visual medium. It assumes no prior knowledge of technology, programming languages or programming environments.

Programmes

stage/semester/status		
COMP-0583	BSc (Hons) in Creative Computing (WD_KCRCO_B)	1 / 1 / M
COMP-0583	BSc in Multimedia Applications Development (WD_KMULA_D)	1 / 1 / M

Indicative Content

- Creative Programming design and interactive art
- Problem solving
- Using Variables in creative programs: Working with numbers and strings
- Performing operations: Logical Operators; Mathematical Operators; Precedence and Associativity
- Controlling Flow: Sequence; Selection; Iteration
- Event Management: user interaction; mouse and keyboard input
- Use of functions for creativity
- Introduction to arrays

Learning Outcomes

On successful completion of this module, a student will be able to:

1. Apply core problem solving approaches suitable to the multimedia environment.
2. Use visually creative applications that employ sequence, conditional and iterative control structures.
3. Construct visually creative applications that use simple UI to respond to user actions, perform computations and use relevant data structures.
4. Employ the creative reference functions in the API's.
5. Demonstrate and explain how the above visually creative applications work.

Learning and Teaching Methods

- Lectures to introduce the theory and concepts of Creative Programming.
- Practical labs so that the students can put the theory into practice.
- Self-directed learning.

Learning Modes

Learning Type	F/T Hours	P/T Hours
Lecture	36	
Practical	24	
Independent Learning	75	

Assessment Methods

	Weighting	Outcomes Assessed
Continuous Assessment	100%	
In-Class Assessment	20%	2
Assignment	30%	1,2,3,4
In-Class Assessment	50%	1,4,5

Assessment Criteria

<40%: Unable to interpret and describe key concepts of creative programming.

40%–49%: Be able to interpret and describe key concepts of creative programming.

50%–59%: Ability to discuss key concepts of creative programming and interactive art and ability to discover and integrate related knowledge in other knowledge domains.

60%–69%: Be able to solve problems within creative programming by experimenting with the appropriate skills and tools.

70%–100%: All the above to an excellent level. Be able to analyse and design solutions to a high standard for a range of both complex and unforeseen problems through the use and modification of appropriate skills and tools.

Essential Material(s)

- "P5 Home Page." <http://p5js.org>
- "Scratch by MIT." <https://scratch.mit.edu/>
- Mc Carthy, L., C. Reas and B. Fry. *Getting started with P5.js*. 4th ed.. NY: In Easy Steps Limited, 2013.
- Vlieg, E. *Basic Scratch: An introduction to the Scratch programming language*. 1st ed.. NY: Amazon Digital Services LLC, 2014.

Supplementary Material(s)

- "Lauren Mc Carthy." <http://lauren-mccarthy.com>

Requested Resources

- Room Type: Computer Lab