

## Liverpool John Moores University

Title: PROTOTYPING WITH VISUAL PROGRAMMING  
Status: Definitive  
Code: **3005FCERT** (117450)  
Version Start Date: 01-08-2011

Owning School/Faculty: Computing and Mathematical Sciences  
Teaching School/Faculty: Computing and Mathematical Sciences

Team	Leader
Mike Baskett	Y

**Academic Level:** FHEQ3      **Credit Value:** 24.00      **Total Delivered Hours:** 72.00  
**Total Learning Hours:** 240      **Private Study:** 168

### Delivery Options

Course typically offered: Standard Year Long

Component	Contact Hours
Lecture	24.000
Practical	48.000

**Grading Basis:** 40 %

### Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Artefacts	AS1	Project involving development using a prototyping tool.	40.0	
Test	AS2	Individual assessment of IDE, application variables, constants and data types.	30.0	1.00
Artefacts	AS3	Individual assessment of design document and implement a visual application.	30.0	

### Aims

- To introduce the student to programming.
- Explain fundamental programming concepts
- Demonstrate an understanding of prototyping software

## Learning Outcomes

After completing the module the student should be able to:

- 1 Problem solve visual programs.
- 2 Design visual programs.
- 3 Develop different visual programs using appropriate tools.
- 4 Describe the process of software development.

## Learning Outcomes of Assessments

The assessment item list is assessed via the learning outcomes listed:

Development	1
In class test	2
Design and implementation	3 4

## Outline Syllabus

*Visual application design process.*

*Interaction design.*

*Design documentation.*

*Prototyping and usability testing.*

*IDE functions and features.*

*User defined variables and constants.*

*Pre defined and user defined events.*

*Development of visual applications.*

*Programming concepts.*

*Sequence, Choice and Iteration.*

*Event programming.*

*Utilise and gain experience in using an appropriate tool for development.*

*Programming in a contemporary language.*

## Learning Activities

This module will be predominantly delivered using lectures and tutorials covering relevant concepts and techniques.

## References

Course Material	Website
Author	

<b>Publishing Year</b>	
<b>Title</b>	<a href="http://info.scratch.mit.edu/About_Scratch">http://info.scratch.mit.edu/About_Scratch</a>
<b>Subtitle</b>	
<b>Edition</b>	
<b>Publisher</b>	
<b>ISBN</b>	

<b>Course Material</b>	Book
<b>Author</b>	Badger, M.
<b>Publishing Year</b>	2009
<b>Title</b>	Scratch 1.4: Beginner's Guide
<b>Subtitle</b>	
<b>Edition</b>	
<b>Publisher</b>	Packt Publishing
<b>ISBN</b>	1847196764

<b>Course Material</b>	Book
<b>Author</b>	Mayo, J.
<b>Publishing Year</b>	2010
<b>Title</b>	Microsoft Visual Studio 2010: A Beginner's Guide
<b>Subtitle</b>	
<b>Edition</b>	
<b>Publisher</b>	McGraw-Hill Osborne
<b>ISBN</b>	0071668950

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## Notes

This module aims to give the student experience in the design and implementation of applications. The tools that the students will be using allow for the students to immediately see how their programs run, enabling them to easily understand the relationship between the programming statements and the behavior of objects. By manipulating the objects in these tools, students gain experience with all the programming constructs typically taught in an introductory programming course.