



UNIVERSITY OF WALES: TRINITY SAINT DAVID
PRIFYSGOL CYMRU: Y DRINDOD DEWI SANT

School of Business, Finance and Management
Ysgol Busnes, Cyllid a Rheolaeth

Software Development
ACCC4006

February 2018

AIM(S)

To provide the student with the essential software concepts involved in the implementation, testing and debugging of programs. Simple design concepts and good programming practices will be adopted throughout the module.

LEARNING OUTCOMES

Upon the successful completion of this module, the student should be able to demonstrate the ability to:

1. Demonstrate an understanding of programming by analyzing and developing solutions to a variety of problems, using software libraries/frameworks if and where appropriate.
2. Determine appropriate fundamental concepts and techniques that can be deployed in the solution of problems/scenarios.

INDICATIVE CONTENT

- The software life-cycle including analysis, design, implementation and testing
- Programming constructs
- Applying software libraries/frameworks in application development Win32, MFC, Qt, VxWorks, .Net, etc.
- Problem solving approaches and techniques, interpreting natural language problems, subdividing problems, constraining problems, etc.
- Fundamental algorithms e.g. Big-O notation, searching, sorting, etc., and data structures e.g. lists, queues, trees, etc.
- A range of concepts appropriate to the pathway e.g. Create Read Update Delete (CRUD) operations, mathematical concepts, basic AI for games, etc.

LEARNING AND TEACHING STRATEGY

Essential concepts and principles will be delivered formally in tutorials supported by concurrent practical laboratory exercises, which will allow students to deploy appropriate theory, practices and tools. Seminars will be punctuated with examples designed to underpin the ideas and techniques introduced, reducing the conceptual leap from theory to practice.

The allocation of teaching to deliver the module is:

Activity type	Hours	Percentage
Scheduled learning	70	35%
Independent learning	130	65%
Placement learning	0	
TOTAL	200	100%

ASSESSMENT

Assessment Part I – Coursework - 50%

Assessment Part II – Coursework - 50%

Assessment Summary

Activity type	Percentage
Written	0%
Coursework	100%
Practical	0%
TOTAL	100%

BIBLIOGRAPHY

Essential

Stellman, A., Greene, J. (2010) *Head First C#*, O'Reilly

Sharp, J. (2013) *Microsoft Visual C# 2013 Step by Step*, Microsoft Press

Background

Griffiths, I. (2012) *Programming C# 5.0*, O'Reilly

Watson, K., Hammer, J.V., Reid, J., Skinner, M., Kemper, D., Nagel, C. (2012) *C Beginning Visual C# 2012 Programming*, John Wiley and Sons

Albahari, J. (2012) *C# 5.0 in a Nutshell*, O'Reilly

Websites

<http://msdn.microsoft.com/en-us/library/67ef8sbd.aspx>

<http://www.homeandlearn.co.uk/csharp/csharp.html>

<http://www.tutorialspoint.com/csharp/>