Sheffield Hallam University

MODULE DESCRIPTOR

TITLE	COMPONENT PROGRAMMING
MODULE CODE	55-400703
LEVEL	4
CREDITS	20
ECTS CREDITS VALUE	10
DEPARTMENT	COMPUTING
SUBJECT GROUP	SOFTWARE ENGINEERING AND COMPUTER SCIENCE

TOTAL NUMBER OF NOTIONAL STUDY HOURS FOR THIS MODULE **Based on 10 notional study hours per credit**	200
TOTAL NUMBER OF SCHEDULED LEARNING AND TEACHING ACTIVITIES	*48*
TOTAL NUMBER OF INDEPENDENT LEARNING HOURS **Including time allowed for assessment activities**	*152*
TYPICAL NUMBER OF SCHEDULED LEARNING AND TEACHING ACTIVITIES PER WEEK	*2*

LEARNING OUTCOMES

LO Ref	Learning Outcome
1	Analyse and decompose a statement of requirements into component parts.
2	Design and apply appropriate graphical-user-interface and program structure components.
3	Implement a program from components and test its functionality.

MODULE SUMMARY (including indicative content)

This module captures the creative, fun and intuitive aspects of programming. The idea is to introduce you to one of the most widely-used programming approaches, namely building software via components. This includes how to build both the user-interface and the underlying application, but may include web programming, scripting and prototype development.

The content of the module will typically include:

1. Program construction by object composition
2. Constructing a GUI and handling GUI events
3. Using library components, e.g. list boxes, text boxes,
4. Using methods, functions and parameters
5. Simple 2D graphics and animations
6. Introduction to user-defined objects and classes
7. Website development and server-based programming
8. Connecting, displaying and manipulating a database

LEARNING, TEACHING AND ASSESSMENT SUMMARY

The learning and teaching approach will be based upon weekly practical computer-lab sessions. Each week will focus upon a different topic but will build on previous sessions. In each session, there will be an introduction where the new topic will be explained. After this, you will be given small practical exercises which will give you the opportunity to learn and practice the demonstrated techniques. The tutor will be available to assist you with completing the exercises.

The week-by-week nature of the topics will provide an incremental 'ladder' to facilitate learning. The aim is to break 'programming' down into small, understandable pieces – starting from the fundamental idea of running a basic program, via dealing with user input, to storing data, then on to presenting results. Each week uses the ideas and techniques taught in previous weeks, so, as you climb the ‘ladder’ your skill-base will increase, you will be able to do more and your confidence in programming will improve.

The assessment invites you to develop software using the techniques and technologies taught in the module. The assessment will test your ability to design and implement programs that perform specific objectives. The assessment will be based on four tasks, each with its own objectives, and with four associated deadlines. The first three tasks, in semester one will be based on a single case study but will invite you to develop component parts of this in sequence. The fourth task, in semester two, will be more substantial and will test your development skills further by inviting you to develop a complete but complex application.

Feedback will be provided at all points throughout the module. Weekly feedback can be given when undertaking the in-class exercises. This will be available directly from you tutor. In semester one, the sequence of coursework submissions will give us the opportunity to provide you with on-going formative feedback. This will enable you to determine how you are progressing and highlight any areas you need to concentrate on further.

ASSESSMENT INFORMATION

Task No.	LO Ref	Assessment Task Description (e.g. essay, artwork, journal etc)	Assessment Task Type Coursework (CW) Written Exam EX) Practical (PR)	Word Count or Exam Duration	Task Weighting %
1	1, 2, 3	Case Study 1.1	CW	15 hours work	20%
2		Case Study 1.2	CW	15 hours work	20%
3		Case Study 1.3	CW	15 hours work	20%
4	1, 2, 3	Case Study 2	CW	30 hours work	40%

LEARNING RESOURCES FOR THIS MODULE

https://shu.rl.talis.com/lists/A92D1900-E53E-2B38-AA46-C9872C005CF8.html

REVISIONS

Date	Reason
July 2018	Minor Mod - DB1COM01-1819