

## University of the West of Scotland

## Module Descriptor

Session: 2024/25

<b>Title of Module: Decision Support Systems</b>			
<b>Code: COMP10062</b>	<b>SCQF Level: 10 (Scottish Credit and Qualifications Framework)</b>	<b>Credit Points: 20</b>	<b>ECTS: 10 (European Credit Transfer Scheme)</b>
<b>School:</b>	School of Computing, Engineering and Physical Sciences		
<b>Module Co-ordinator:</b>	Keshav Dahal		
<b>Summary of Module</b>			
<p>This module introduces a collection of computer technologies that support decision making process. Making decisions may require considerable amounts of relevant data, information, and knowledge. The module will focus on how all stages of the decision-making process can be supported by conventional and intelligent decision support systems for improving the overall quality of decisions. The students will learn how to apply different decision support technologies for solving various practical real-life decision problems and how to develop simple decision-support systems. It has three major components: First, the types of decision to be made based on working environments, people and styles of decision making. It addresses if it is possible to construct a generalised DSS given the diversity of environments and examines ways in which the organisation may change as a consequence of applying this technology. The second component focuses on Decision Theory and reviews the generalised theories which have been developed for supporting decisions. The final component merges these two to demonstrate that DSS can indeed be of use and have real potential. The module will develop a range of graduate attributes. Knowledge in the principles behind the decision techniques will develop skills to critically evaluate decision theory and the generalised methods which have been developed for supporting decisions and gain a systematic understanding of the characteristics, feasibility and the supporting mathematics of decision support systems. This module provides a way to train students in carrying out hands-on tasks, while developing their creative thinking and preparing them for future employment.</p>			

<b>Module Delivery Method</b>					
<b>Face-To-Face</b>	<b>Blended</b>	<b>Fully Online</b>	<b>HybridC</b>	<b>Hybrid 0</b>	<b>Work-Based Learning</b>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>See Guidance Note for details.</b>					

Campus(es) for Module Delivery						
The module will <b>normally</b> be offered on the following campuses / or by Distance/Online Learning: (Provided viable student numbers permit) (tick as appropriate)						
Paisley:	Ayr:	Dumfries:	Lanarkshire:	London:	Distance/Online Learning:	Other:
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Add name

Term(s) for Module Delivery					
(Provided viable student numbers permit).					
Term 1	<input type="checkbox"/>	Term 2	<input checked="" type="checkbox"/>	Term 3	<input type="checkbox"/>

Learning Outcomes: (maximum of 5 statements) These should take cognisance of the SCQF level descriptors and be at the appropriate level for the module. At the end of this module, the student will be able to:	
L1	Analyse the need for, and effectiveness of, computerised methods for supporting decision making in business, and apply mathematics of decision support systems;
L2	Evaluate and apply information and Information Technologies both systematically and creatively in solving decision making problems;
L3	Demonstrate analytical and decision making skills in complex and unpredictable situations.

Employability Skills and Personal Development Planning (PDP) Skills	
<b>SCQF Headings</b>	During completion of this module, there will be an opportunity to achieve core skills in:
Knowledge and Understanding (K and U)	SCQF Level <b>10</b> Knowledge & understanding of working principle of decision theory and the generalised methods which have been developed for supporting decisions.
Practice: Applied Knowledge and Understanding	SCQF Level <b>10</b> Knowledge of applying practical skills in designing and building computerised methods for supporting decision making in business.
Generic Cognitive skills	SCQF Level <b>10</b>

	Students will learn how to bring together information from various sources so as to complete their laboratory and tutorial tasks.	
Communication, ICT and Numeracy Skills	SCQF Level <b>10</b> Compiling individual report students will develop communication skills as well as the ability to write technical report. Students will gain a systematic understanding of supporting mathematics of decision support systems.	
Autonomy, Accountability and Working with others	SCQF Level <b>10</b> Students will be encouraged to work with others in tutorials and lab sessions for finding information and solving problems on the assigned task. In doing so, students will develop a sense of accountability to the other members.	
<b>Pre-requisites:</b>	Before undertaking this module the student should have undertaken the following:	
	<b>Module Code:</b>	<b>Module Title:</b>
	<b>Other:</b>	
<b>Co-requisites</b>	<b>Module Code:</b>	<b>Module Title:</b>

\*Indicates that module descriptor is not published.

<b>Learning and Teaching</b>	
<b>In line with current learning and teaching principles, a 20-credit module includes 200 learning hours, normally including a minimum of 36 contact hours and maximum of 48 contact hours.</b>	
<b>Learning Activities</b> During completion of this module, the learning activities undertaken to achieve the module learning outcomes are stated below:	<b>Student Learning Hours</b> (Normally totalling 200 hours): (Note: Learning hours include both contact hours and hours spent on other learning activities)
Lecture/Core Content Delivery	20
Tutorial/Synchronous Support Activity	
Laboratory/Practical Demonstration/Workshop	20
Independent Study	160
	200 Hours Total

<b>**Indicative Resources: (eg. Core text, journals, internet access)</b>
<p>The following materials form essential underpinning for the module content and ultimately for the learning outcomes:</p> <p>Module Resources on Aula/Moodle</p> <p>Microsoft Excel Software</p> <p>The World Wide Web</p> <p>Applied Management Science: Modeling, Spreadsheet Analysis, and Communication for Decision Making, 2nd Edition, John A. Lawrence, Barry A. Pasternack, Wiley, 2002.</p> <p>Decision Analysis for Management Judgment, 4th Edition, Paul Goodwin, George Wright, Wiley, 2010.</p> <p>Artificial Intelligence: A Guide to Intelligent Systems (3rd Edition), Michael Negnevitsky, Pearson, 2011.</p>
(**N.B. Although reading lists should include current publications, students are advised (particularly for material marked with an asterisk*) to wait until the start of session for confirmation of the most up-to-date material)
<b>Attendance and Engagement Requirements</b>
In line with the <a href="#">Student Attendance and Engagement Procedure</a> : Students are academically engaged if they are regularly attending and participating in timetabled on-campus and online teaching sessions, asynchronous online learning activities, course-related learning resources, and complete assessments and submit these on time.

<b>Equality and Diversity</b>
<p>The University's Equality, Diversity and Human Rights Procedure can be accessed at the following link: <a href="#">UWS Equality, Diversity and Human Rights Code</a>.</p> <p>Please ensure any specific requirements are detailed in this section. Module Co-ordinators should consider the accessibility of their module for groups with protected characteristics..</p>
(N.B. Every effort will be made by the University to accommodate any equality and diversity issues brought to the attention of the School)

### Supplemental Information

<b>Divisional Programme Board</b>	Computing
<b>Assessment Results (Pass/Fail)</b>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

<b>School Assessment Board</b>	Business & Applied Computing
<b>Moderator</b>	Bikrant Koirala
<b>External Examiner</b>	R Khusainov
<b>Accreditation Details</b>	e.g. ACCA <a href="#">Click or tap here to enter text.</a>
<b>Changes/Version Number</b>	1.10

**Assessment: (also refer to Assessment Outcomes Grids below)**

**Practical Coursework Report (40%)**

A formal written report (weighted 40%) with lab implementation will be required from each student summarizing their finding on the course topics – agreed by the module coordinator, to evaluate LO3. This will test their level of understanding about the theoretical concepts, methodologies, and case studies discussed during the lectures and tutorials. These formal written reports must be submitted before the due dates.

**A Formal Adapted Examination (60%)**

Students will be required to take a formal written/adapted examination (weighted 60%). The exam will comprise questions (descriptive and numerical problem solving). Questions will mainly assess student's understanding about the theoretical and practical topics covered in the lectures, to evaluate LO1 and LO2.

(N.B. (i) **Assessment Outcomes Grids** for the module (one for each component) can be found below which clearly demonstrate how the learning outcomes of the module will be assessed.

(ii) An **indicative schedule** listing approximate times within the academic calendar when assessment is likely to feature will be provided within the Student Module Handbook.)

**Assessment Outcome Grids (See Guidance Note)**

<b>Component 1</b>						
<b>Assessment Type (Footnote B.)</b>	<b>Learning Outcome (1)</b>	<b>Learning Outcome (2)</b>	<b>Learning Outcome (3)</b>	<b>Learning Outcome (4)</b>	<b>Weighting (%) of Assessment Element</b>	<b>Timetabled Contact Hours</b>
Unseen closed book exam (standard)	✓	✓			60	2

<b>Component 2</b>						
<b>Assessment Type (Footnote B.)</b>	<b>Learning Outcome (1)</b>	<b>Learning Outcome (2)</b>	<b>Learning Outcome (3)</b>	<b>Learning Outcome (4)</b>	<b>Weighting (%) of Assessment Element</b>	<b>Timetabled Contact Hours</b>
Report of practical/ field/ clinical work			✓		40	8
<b>Combined Total for All Components</b>					<b>100%</b>	<b>10 hours</b>