Module Descriptor

Title	Decision Support Systems		
Session	2025/26	**Status**	Published
Code	COMP10062	**SCQF Level**	10
Credit Points	20	**ECTS (European Credit Transfer Scheme)**	10
School	**Computing, Engineering and Physical Sciences**		
Module Co-ordinator	Keshav Dahal		

Summary of Module

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.

Module Delivery Method	**On-Campus[1]**	**Hybrid[2]**	**Online[3]**	**Work -Based Learning[4]**
	☒	☐	☐	

[1] Where contact hours are synchronous/ live and take place fully on campus. Campus-based learning is focused on providing an interactive learning experience supported by a range of digitally-enabled asynchronous learning opportunities including learning materials, resources, and opportunities provided via the virtual learning environment. On-campus contact hours will be clearly articulated to students.

[2] The module includes a combination of synchronous/ live on-campus and online learning events. These will be supported by a range of digitally-enabled asynchronous learning opportunities including learning materials, resources, and opportunities provided via the virtual learning environment. On-campus and online contact hours will be clearly articulated to students.

[3] Where all learning is solely delivered by web-based or internet-based technologies and the participants can engage in all learning activities through these means. All required contact hours will be clearly articulated to students.

[4] Learning activities where the main location for the learning experience is in the workplace. All required contact hours, whether online or on campus, will be clearly articulated to students

				☐
Campuses for Module Delivery	☐ Ayr ☐ Dumfries	☐ Lanarkshire ☐ London ☒ Paisley	☐ Online / Distance Learning ☐ Other (specify)	
Terms for Module Delivery	Term 1 ☐	Term 2 ☒	Term 3 ☐	
Long-thin Delivery over more than one Term	Term 1 – Term 2 ☐	Term 2 – Term 3 ☐	Term 3 – Term 1 ☐	

Learning Outcomes	
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.
L4	N/A
L5	N/A

Employability Skills and Personal Development Planning (PDP) Skills	
SCQF Headings	**During completion of this module, there will be an opportunity to achieve core skills in:**
Knowledge and Understanding (K and U)	**SCQF 10** 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 10** Knowledge of applying practical skills in designing and building computerised methods for supporting decision making in business.
Generic Cognitive skills	**SCQF 10** 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 10** 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 10** 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.

Prerequisites	Module Code	Module Title
	Other	
Co-requisites	Module Code	Module Title

Learning and Teaching	
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.	
Learning Activities During completion of this module, the learning activities undertaken to achieve the module learning outcomes are stated below:	**Student Learning Hours** (Note: Learning hours include both contact hours and hours spent on other learning activities)
Lecture / Core Content Delivery	20
Tutorial / Synchronous Support Activity	10
Laboratory / Practical Demonstration / Workshop	10
Independent Study	160
Please select	
Please select	
TOTAL	200

Indicative Resources

The following materials form essential underpinning for the module content and ultimately for the learning outcomes:

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Module Resources on Aula/Moodle

Microsoft Excel Software

The World Wide Web

Applied Management Science: Modeling, Spreadsheet Analysis, and Communication for Decision Making, 2nd Edition, John A. Lawrence, Barry A. Pasternack, Wiley, 2002.

Decision Analysis for Management Judgment, 4th Edition, Paul Goodwin, George Wright, Wiley, 2010.

Artificial Intelligence: A Guide to Intelligent Systems (3rd Edition), Michael Negnevitsky, Pearson, 2011.

(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)

Attendance and Engagement Requirements
In line with the Student Attendance and Engagement Procedure, 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. **For the purposes of this module, academic engagement equates to the following:** The School of Computing, Engineering and Physical Sciences considers attendance and engagement to mean a commitment to attending, and engaging in, timetabled sessions. You will scan your attendance via the scanners each time you are on-campus and you will login to the VLE several times per week. Where you are unable to attend a timetabled learning session due to illness or other circumstance, you should notify the Programme Leader that you cannot attend. Across the School an 80% attendance threshold is set. If you fall below this, you will be referred to the Student Success Team to see how we can best support your studies

Equality and Diversity
The University's Equality, Diversity and Human Rights Procedure can be accessed at the following link: UWS Equality, Diversity and Human Rights Code. Aligned with the University's commitment to equality and diversity, this module supports equality of opportunity for students from all backgrounds and learning needs. Using the VLE, material will be presented electronically in formats that allow flexible access and manipulation of content. This module complies with University regulations and guidance on inclusive learning and teaching practice. Specialist assistive equipment, support provision and adjustment to assessment practice in accordance with the University's policies and regulations.
(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

Divisional Programme Board	**Computing**
Overall Assessment Results	☐ **Pass / Fail** ☒ **Graded**
Module Eligible for Compensation	☐ **Yes** ☒ **No** **If this module is eligible for compensation, there may be cases where compensation is not permitted due to programme accreditation requirements. Please check the associated programme specification for details.**
School Assessment Board	Business & Computing
Moderator	Bikrant Koirala
External Examiner	R Khusainov
Accreditation Details	
Module Appears in CPD catalogue	☐ **Yes** ☒ **No**
Changes / Version Number	1.11

Assessment (also refer to Assessment Outcomes Grids below)
Assessment 1
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.
Assessment 2
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.
Assessment 3
(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.)

Component 1							
Assessment Type	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**Weighting of Assessment Element (%)**	**Timetabled Contact Hours**
Unseen closed book exam (standard)	☒	☒	☐	☐	☐	60	2

Component 2							
Assessment Type	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**Weighting of Assessment Element (%)**	**Timetabled Contact Hours**
Report of practical/ field/ clinical work	☐	☐	☒	☐	☐	40	8

Component 3							
Assessment Type	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**Weighting of Assessment Element (%)**	**Timetabled Contact Hours**
	☐	☐	☐	☐	☐		
Combined total for all components						100%	10 hours

Change Control

What	When	Who
Attendance and Engagement Procedure and Equality and Diversity	17/1/25	F.Valentine