Module Descriptor

Title	Enterprise Architecture		
Session	2025/26	**Status**	Published
Code	COMP11112	**SCQF Level**	11
Credit Points	20	**ECTS (European Credit Transfer Scheme)**	1
School	**Computing, Engineering and Physical Sciences**		
Module Co-ordinator	Volkan Tunali		

Summary of Module

This module focuses on system architectures with business, services, data, applications, and technologies. It in particular covers service-related technologies (SOA, MDA, WS, etc.) that enables the development of service-oriented enterprise software systems or computer systems. It explains the structure of system components, their inter-relationships, and the principles and guidelines governing their design and evolution over time with SOA. It shows a process of evolution from business architecture at the high level to software components at the low level throughout the development process. It addresses a set of enterprise viewpoints and covers different aspects of service-oriented systems in terms of a set of models with SOA including the business context model, the business process model, the business scenario model with events and services, the semantic information model with business entities and data, the service interface model with service communication and information transformation, SOA model with implementation components, and data security.

In practice, it demonstrates the use of industry architecture frameworks and development tools to build models and design the structure of a service-oriented system for an enterprise or other uses. It also discusses how to integrate existing applications into a new service-oriented system as demanded by changes in the business.

Undertaking this module will develop a range of graduate attributes. Service concepts and principles will be understood and used for service-oriented software development. Case studies will develop problem-solving skills with service-oriented methods and technology. Service-oriented architectures will be reviewed to develop critical evaluation abilities.

Module Delivery Method	On-Campus[1] ☒	Hybrid[2] ☐	Online[3] ☐	Work -Based Learning[4] ☐
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	Demonstrate an understanding of architectural principles, architecture evolution processes, development methods with SOA, strengths, and difficulties of service-oriented system development, and data security.
L2	Demonstrate an understanding of the development process of service-oriented systems, and service- related technologies used for the development
L3	Systematically model and design an effective service-oriented system using architectural principles, and development methods with SOA and service-related technologies
L4	Critically evaluate and apply development methods with SOA and service-related technologies in service- oriented system development
L5	Demonstrate ability to work as a member of a software development project team

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 11** Systematically understand the principles, methods, processes, strategies, and data security in using new technologies in the development of systems for enterprises or other uses. Identifying and using suitable development methods and technologies in enterprise software systems, or computer systems, development. Understanding modern paradigms, architectures, and technologies for system development

[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

Practice: Applied Knowledge and Understanding	**SCQF 11** Developing an enterprise system, or a computer system, following a taught method with new technologies. Systematically modelling and designing an effective system using appropriate development methods and technologies. Showing originality and innovation in the application of knowledge and techniques. Critically evaluating the system developed and aspects of the domain such as architectural principles, business value, and services.
Generic Cognitive skills	**SCQF 11** Understanding the key issues in the effective analysis, design, implementation, and usability of enterprise software systems or computer systems. Being able to communicate effectively with the users and other members of a team about the system development technologies used
Communication, ICT and Numeracy Skills	**SCQF 11** Being able to critically evaluate the methods and technologies used in the system development. Using problem-solving skills appropriate to the identified problem and creatively forming solutions to a complex enterprise software system or computer system. Critically reflecting on the relationship between theory and practice in developing solutions for enterprises' problems, or other problems
Autonomy, Accountability and Working with Others	**SCQF 11** Demonstrating an ability to work on a project with other members of a team

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. Classes are delivered weekly. Lectures will introduce and exemplify key theoretical and critical concepts as well as introduce case studies with business requirements in practice. Tutorial sessions will be given to further develop students' understanding. For Distance Learning students and hybrid deliveries, full use will be made of the VLE. That is, all teaching material will be made available online and students will be guided through the material. Email and video- conferencing will be used to support students

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	20
Laboratory / Practical Demonstration / Workshop	8
Independent Study	152
Please select	
Please select	
TOTAL	200

Indicative Resources
The following materials form essential underpinning for the module content and ultimately for the learning outcomes: Rosen, M., Lublinsky, B., Smith, K.T. and Balger, M.J. (2008), Applied SOA: Service-Oriented Architecture and Design Strategies, John Wiley & Sons, 2008.* T. Erl et al., (2014), Next Generation SOA: A Concise Introduction to Service Technology & Service-Orientation, Prentice Hall* Bell, M. (2008), Service-Oriented Modelling: Service Analysis, Design, and Architecture, John Wiley & Sons.* Business Process Model and Notation (BPMN) 2.0, Object Management Group (OMG) (http://www.bpmn.org).* Developing applications with a service-oriented architecture, Student Notebook (version 1.3), IBM, 2009.*
(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. This module has lab-based teaching and as such you are advised to speak to the Module Co-ordinator to ensure that specialist assistive equipment, support provision and adjustment to assessment practice can be put in place, 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 & Applied Computing
Moderator	Sajjad Bagheri
External Examiner	A Malhi
Accreditation Details	
Module Appears in CPD catalogue	☐ **Yes** ☒ **No**
Changes / Version Number	1.1

Assessment (also refer to Assessment Outcomes Grids below)
Assessment 1
The assessment is coursework worth 100% which is undertaken and submitted at the end of the module
Assessment 2
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
Portfolio of written work	☒	☒	☒	☒	☒	100	0

Component 2							
Assessment Type	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**Weighting of Assessment Element (%)**	**Timetabled Contact Hours**
	☐	☐	☐	☐	☐		

Component 3							
Assessment Type	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**Weighting of Assessment Element (%)**	**Timetabled Contact Hours**
	☐	☐	☐	☐	☐		
Combined total for all components						100%	0 hours

Change Control

What	When	Who
Attendance and EDI updated. Updated module coordinator and moderator. External Examiner updated	21/01/2025	A Adamson