Module Title	**Analysis and Design**
Level	5
Reference No.	CSI_5_AAD
Credit Value	20
Student Study Hours	Total: 200 Contact hours: 52 Student managed learning hours: 148
Pre-requisites	None
Co-requisites	None
Excluded combinations	None
Module co-ordinator	TBC
Division	Computer Science and Informatics
Short Description	This module explores the techniques for systems analysis and design, divided mainly into four areas: traditional methodologies & techniques, agile methodologies & techniques, professional and ethical practice and standards, finally professionally recognised project management techniques.
Aims	This module provides a theoretical understanding of, and practical competence in, the techniques of information systems analysis and design.
Learning Outcomes	**LO1: Knowledge and Understanding:** ● The characteristics, relevance and use of data modelling and process modelling techniques ● The characteristics, relevance and use of project management tools and techniques, also LSEPI including assessment and evaluation of risks (Maps to: BCS 2.2.1 a1-a6, a9) **LO2: Intellectual Skills**. To be able to: ● Compare and contrast the advantages and disadvantages of a range of systems life cycle models ● Discuss the relative merits of process, data and event-based models (Maps to: BCS 2.2.1 a7-a8) **LO3: Practical Skills**. To be able to: ● develop and document a range of appropriate models for requirements capture and systems design (Maps to: BCS 2.2.1 b1-b4) **LO4: Transferable Skills**. To be able to: ● manage a project and prepare professionally structured project reports, working in teams (Maps to: BCS 2.2.1 c1-c2)
Employability	The techniques used in the analysis and design of information systems are a key part of the skill set required in almost any career in computing and IT. The business analyst will need these modelling techniques to understand and communicate systems requirements to the developers. The developers will need the analysis modelling toolkit in order to understand the requirements that form the specification they must work from.
Teaching and learning pattern	In general, the contact time will be divided into a two-hour lecture-based presentation and a three-hour student led tutorial. **Lecture:** Large group session (all tutorial groups combined) Expect this to often be workshop based. Some lecturing, also use of videos & mini-exercises. **Tutorial Workshop:** One to one advice on tutorial exercises that you will have attempted individually. Assignment team meetings. Assignment support and advice from tutors. Wherever possible, Lecture & Tutorial activities will be supported using Moodle, the virtual learning environment (VLE).
Indicative content	● Review of traditional methodologies: e.g., Waterfall Model, Prototyping, SDLC. ● Introduction to UML, Agile methodologies: e.g. RUP, SCRUM ● Introduction to Systems Thinking based methodologies ● PAS 754:2014 Software trustworthiness - Governance and management issues. ● Legal, Social, Ethical and Professional Issues (LSEPI)

	● Data Protection Act & Freedom of Information Act and GDPR ● Internet issues- responsibilities of internet service providers, national boundaries, pornography, defamation, spam ● UML diagrammatic notations ● UI/UX: inc. Design principles/techniques, Intellectual Property - copyright, patents, trademarks, confidential information ● Introduction to professionally recognised project management methods: Prince2, PMP
Assessment Elements & weightings	**COURSEWORK 60% : EXAM 40%** **Summative Assessment** **COURSEWORK 60% (LO1, LO3, LO4)** The coursework is usually expected to be group work based. A team assignment will be based around a mini-case problem scenario. The accompanying written report documenting the design work undertaken will be approximately 3000-4000 words. ● (Maps to: BCS 2.2.1 b1-b4, c1, c2) **EXAM 40% (LO1, LO2, LO3)** The exam will be a 2hr paper covering topics from a selection of areas from the module content. Tutorial Logbooks are allowed. A logbook consists of your Tutorial Exercise attempts only. Lecture slides, textbooks, calculators are not allowed. ● Maps to: BCS 2.2.1 a1-a9, 2.2.3 a1-a7) **Formative Assessment** Skills for the summative assessment will be embedded throughout formative opportunities in Lectures and Workshops. Formative assessment will take different forms, such as: ● a logbook used to aid discussions with the tutor ● verbal feedback on tutorial activities ● observation and questioning to provide instant feedback as the student takes part in learning activities
Indicative Sources (Reading lists)	**Core:** ● Satzinger, J.W., Jackson, R.B. and Burd S.D. (2016). *Systems Analysis and Design in a changing world*. 7th ed., Cengage Learning **Optional:** ● Fowler, S. (2015) *UML Distilled: A Brief Guide To The Standard Object Modeling Language* (3rd Ed.) Pearson ISBN 9332553939 ● Valacich, J., George, J. and Hoffer, J. (2016) *Modern Systems Analysis and Design* (Global Ed.) Pearson ISBN 1292154144 ● David Hinde (2012) *PRINCE2 Study Guide*. Sybex Publishing **Online Journal Articles:** http://tsfdn.org/wp-content/uploads/2016/03/TS502-1-TS-Essentials-Guidance-Issue-1.2-WHITE.pdf (Feb 2016) Trustworthy Software - Guidance Document Trustworthy Software Essentials (TSE) ISSUE 1.2 - TLP WHITE eujournal.org/index.php/esj/article/download/3459/3222 Usman, M. , Soomro, T. and Brohi, M *Embedding Project Management Into Xp, Scrum And Rup* European Scientific Journal May 2014 edition vol.10, No.15, ISSN: 1857 – 7881 (Print) e - ISSN 1857- 7431 http://www.academia.edu/4592144/Agile_Unified_Process Edeki, C. *Agile_Unified_Process*, International Journal of Computer Science and Mobile Applications,Vol.1 Issue. 3, September- 2013, pg. 13-17, ISSN: 2321-8363