

Module Details	
Module Title	Final Year Project
Module Code	COS6006-D
Academic Year	2024/5
Credits	40
School	School of Computer Science, AI and Electronics
FHEQ Level	FHEQ Level 6

Contact Hours	
Type	Hours
Tutorials	4
Lectures	6
Laboratories	6
Project Supervision	24
Directed Study	364

Availability	
Occurrence	Location / Period
BDA	University of Bradford / Academic Year

Module Aims
<p>Computer Science projects are part of everyday life across the world, providing digital technologies in every scientific, business, industry, social and health sector amongst others, including education, research, finances, manufacturing, care and wellbeing, travel, environment, arts and heritage while supporting scientific discoveries and progress.</p> <p>In this module, you will have the opportunity to grow and apply the knowledge and skills assimilated and imparted during all years of your programme of studies and advance your problem-solving skills through the solution of a problem normally involving research, analysis, design, practical development and testing of a software product or computational process. You will also develop your ability to plan and implement project activities to achieve an agreed set of objectives in a given timescale. You will enjoy the opportunity to acquire and cover a number of relevant topics that can be demonstrated as a portfolio of knowledge and skills for your professional career and academic profile, as part of the final year of undergraduate studies, in a topic, with knowledge and skills aligned with your programme of studies. You will also have enhanced research, analysis, design, development, testing, deployment and maintenance knowledge and practical skills supported by multimedia evidence of work. Professional and communication skills are being developed for both professional and employment development through project management, regular tutorials, portfolio creation, showcase participation and project demonstration.</p>

## Outline Syllabus

The key topics to be studied involve:

1. Critical review of relevant background information from various sources prior to, and during proceeding to solve a challenging technical problem aligned with the programme of study.
2. Professional development, career planning and progression, employability and further studies prospects with talks, materials, support and employment opportunities from the University Careers.
3. Research, finding and critically reviewing academic, industry and third-party resources; understanding and avoiding academic misconduct with talks, materials, support from the University Library staff.
4. How to find, read, critically review research and professional resources; how to write technical and research reports.
5. Legal, social, ethical and professional issues, risks, evidence, approaches and applications.
6. Defining and designing a solution, its implementation, testing, deployment, maintenance and critical analysis of the results - including reflective work on applicable legal, social, ethical and professional issues in software industry, security, privacy and data protection, or human-computer interaction.
7. Project planning and risk management.
8. Cutting edge scientific solutions and technologies in computer science, software engineering, artificial intelligence, cyber security project for the design, validation and description.

You will be required to produce a consistent and comprehensive written technical report as proof of a working solution to the technical problem, and a presentation of the results obtained (at interim and final stages), as well as a portfolio of evidence of professional development, final report and solution presentation and demonstration.

## Learning Outcomes

Outcome Number	Description
01	Demonstrate you have undertaken a major piece of work relating to a theme in the subject area, including its planning, scheduling and reporting, taking responsibility for the successful completion of many interdependent activities; acquire up to date and relevant information and justify your choice of methods and techniques in a rigorous manner; and apply scientific and/or software principles to the solution of a theoretical or practical problem; Be able to reflect on work carried out, and produce a critical review of the issues related to professional, social, legal and ethical issues in the software industry, and the project theme alignment with evidence with your programme of studies.
02	Devise and recommend solutions to problems by applying scientific and software principles to the solution of a theoretical or practical subject area related problems; Acquire up to date and relevant information and justify your choice of methods and techniques in a rigorous manner; Demonstrate your understanding of wider areas of interest, issues related to developing as a professional and show a rigorous approach to the management of a large project.
03	Carry out project planning, scheduling and reporting, and take responsibility for the successful outcome of your work; present findings clearly and unambiguously, using relevant oral and written communication skills. You will also have enhanced research, design and development skills; Be able to assess own progress iteratively in response to feedback; Reflect on own progress and identify realistic goals; Produce balanced arguments based on evidence; Be able to develop a portfolio and present own solution to various audiences, including examiners and general public.

## Learning, Teaching and Assessment Strategy

Learning outcomes are addressed through lectures and laboratory sessions with the leading academic coordinator, plus weekly tutorials with the confirmed academic supervisor. The contact hours aim to introduce computational systems, software engineering methods and techniques utilised in software development, formal languages and experiment, project management, professional portfolio and career progression, academic correctness and misconduct.

Directed study includes reading activities, individual and supervisor group meetings, exercises and revision of concepts and processes taught in the teaching sessions, reading and application of documentation, standards and programming examples from projects, technical reports and book sections.

Final Year Project organisation and assessment are described in detail in the Project VLE resources and explained by the module coordinator in lectures.

The individual project has a theme agreed with the project supervisor and is developed with their guidance and feedback. The individual project agreed between student and academic supervisor requires the student to critically absorb relevant background information from various sources prior to proceeding to solve a challenging technical problem aligned with the learning outcomes of own programme of study.

The activities that receive regular feedback through weekly tutorials include project specification, project planning, problem-solving, defining and designing a solution, implementation, testing and deployment, critical analysis of the results - including reflective work on applicable, legal, social, ethical and professional (LSEP) issues in software industry, security, privacy and data protection, human-computer interaction including Generative AI creation and applications. The student will be required to produce a consistent and comprehensive written report, a proof of a working solution to the technical problem and a presentation of the results obtained. Concomitantly the progress journey will be backed-up by a portfolio report of evidence of progress and development that will support you further in the academic and professional career journey. Throughout the duration of the project, you will assemble evidence of your progress in the form of minutes of the meetings with your supervisors, mid-term report, project plan. The minutes will reflect your planning abilities, risks and time management skills in fulfilling tasks and meeting deadlines, as well as feedback from supervisor during regular, timetabled meetings.

The project deliverables (the portfolio report, mid-term and final technical reports, the computational product prototype, a showcase poster and a demonstration of the solution provided, and the oral presentation) are compulsory components to assess the overall project outcomes and your communication skills in VLE submissions and Viva Voce demonstration. The mid-term report is a stepping stone towards the final Technical Report, its submission components are used to be critically assessed and incorporated in the final Technical Report as applicable.

The final submission documents lengths then are: Mid-term report (5,000 words), Technical Report (10,000 words) and Portfolio Report (5,000 words). Viva Voce requiring your real time presence following final submission stage includes prototype demonstration, description of the solution to problem (e.g. software of the prototype, code, experiments and case studies). Written feedback is provided after each assessment. Supplementary assessment will address deficiencies in the original attempt.

Formative feedback is provided by the project supervisor on a regular basis for the progress with research, problem-solving, solution development and validation, in the form of verbal, written and recommendations during weekly tutorials and after mid-term report assessment. The supervisor's feedback is complemented by interactive sessions organised by the module coordinator to revise relevant pieces of work using the existing assessment and feedback forms. Summative feedback is provided via VLE (e.g. Canvas) Assessment fields and additional details are collected in the marking and feedback form. The summative feedback is delivered by the project supervisor and assigned examiner and moderated by an academic panel. The pass mark is achieved as the overall weighted average of the named assessment components, agreed by the assessors (supervisor, examiner, and moderator/s as applicable).

Learning Outcomes LO1-LO3 are addressed by the work and submission of all four assessment deliverables. These components will also assess your recognition of risks on data protection legislation, and social, ethical, professional matters.

The student re-taking the assessment during resit period will deliver the failed component(s) as individual component submissions.

Mode of Assessment			
Type	Method	Description	Weighting
Summative	Coursework - Written	Assessment 1: mid-term report and draft prototype demonstration. (CWW) 5000 words or 10-20 pages.	25%
Summative	Coursework - Written	Assessment 2: Portfolio Report: professional development (CWP) 5000 words.	25%
Summative	Coursework - Written	Assessment 3: Technical Report: solution to the technical problem. (DIS/PR) 10,000 words or 20-40 pages.	25%
Summative	Presentation	Assessment 4: Viva Voce. (EXAMV)	25%

Reading List
To access the reading list for this module, please visit <a href="https://bradford.rl.talis.com/index.html">https://bradford.rl.talis.com/index.html</a>

*Please note:*

*This module descriptor has been published in advance of the academic year to which it applies. Every effort has been made to ensure that the information is accurate at the time of publication, but minor changes may occur given the interval between publishing and commencement of teaching. Upon commencement of the module, students will receive a handbook with further detail about the module and any changes will be discussed and/or communicated at this point.*

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