UNIVERSITY of BRADFORD

Module Details	
Module Title	MSc Group Project
Module Code	COS7048-B
Academic Year	2023/4
Credits	20
School	Department of Computer Science
FHEQ Level	FHEQ Level 7

Contact Hours	
Type	Hours
Laboratories	28
Lectures	12
Directed Study	160

Availability	
Occurrence	Location / Period
BDA	University of Bradford / Semester 2

Module Aims

Conducting projects is an integral part of academic and/or professional career. Some projects fail due technical reasons, but most failures are directly related to the poor project management and not applying the principles of good project management. In this module, the students will learn project management processes that project teams must understand and the standards to which their projects are being held to and apply these principles in a practical project. The module gives students experience of carrying out a computer science research project that solves a particular research problem relevant to the programme of study (e.g. Artificial Intelligence, Big Data Systems, Internet of Things, etc.). The students will either provide a computational solution using scientific tools and methods and performing computational analysis, or they provide a software engineering solution by developing a fully functional software system using state-of-the-art software development techniques. The students will also analyse legal, social, ethical and professional issues related to their projects. By working in teams, the students are expected to demonstrate the need for a professional approach to all aspects of research and software development. As part of the project, teams will deliver reports, code, and demonstrate a working software system or a computational solution. In addition, they will present certain elements of their work in written, graphical and verbal forms through the production of materials, e.g., reports, demo, and oral presentation. The students will be guided by a supervisor from the relevant research disciplines.

Outline Syllabus
Introduction to Groupwork, Research Methods, Project Management, Project Planning, Project Execution, Project Monitor and Control, Project Closure, Reporting. Some more specific topics to be covered are: critical evaluation; software design aspects: architectures, quality assurance, maintainability, performance and scalability; testing and validation; legal, social, ethical, and professional issues; academic report writing; risk management.

Learning Outcomes	
Outcome Number	Description
1	Demonstrate skills related to research methods and methodologies.
LO2	Critically analyse a research problem and provide a computational or software engineering solution.
LO3	Demonstrate ability to work collaboratively.
LO4	Present project management and communication skills.
LO5	Address legal, social, ethical, and professional issues in a computing project..

Learning, Teaching and Assessment Strategy

Utilising current research and case studies on the topic of MSc Group Project, the students will participate in lectures, labs and independent study to explore concepts and solve real-world problems. The teaching and learning methods have been selected to engage students in developing their knowledge and understanding of MSc Group Project through formal learning opportunities such as lectures, experiential learning through practical lab sessions, and informal and social learning through team-working in projects.

Lectures introduce the theoretical concepts, which are then applied to a research problem relevant to the programme of study (e.g., MSc in Artificial Intelligence, and MSc in Big Data Science and Technology). The progress of the teams/students as well as their interactions within the teams are closely monitored and supported by a supervisor during the laboratory practical sessions and timely formative feedback is provided to support student/team learning. Any project, team or technology related issues will be discussed in the lab sessions. The students are expected to work together independently outside the scheduled teaching sessions. The directed study, monitored via team meeting notes, will include all project related activities, e.g., working on tasks allocated to an individual team member, team meetings, presentation preparations, etc.

To support accessibility, clarity and comprehension all teaching material is provided online in advance of the teaching sessions. The practical activities are designed to encourage the use of modern tools and applications (such as Netbeans, Eclipse, GitHub, Anaconda, Visio, project management/monitoring tools, etc.) to enhance student learning and experience. Throughout the module, lots of opportunities are provided for students to design their own solutions and to express their own ideas, choosing from a variety of tools and methodologies. An emphasis is also placed on the importance of planning and goal setting, allowing students to forge a learning pathway that is suitable for their needs, while respecting the requirements of programme, and the needs of others, when working within a team.

The module will be summatively assessed through Interim Report and Demo. This will be followed by Final Report and Demo and Short Oral Presentation (team-based). If a student requires supplementary assessment for re-assessment, (s)he will have to repeat the assessment component(s) that (s)he failed based on a supplementary scenario (or data set) to demonstrate evidence for the required learning outcomes. Students? understanding of the problems to be solved, the ability to provide good solutions and practical communication skills are assessed through practical demonstration of the code functionality, through documentation of the project and presentations made to postgraduate students and research staff. The assessments take into account both team contributions to the project as well as individual performance. The team contribution is based on the outcomes produced - code, reports and presentation. Individual assessment results from the overall contribution to the project based on evidence produced, as well as the observations made by supervisors throughout the term regarding individual contributions and the assessment made by team members.

To prepare the students ready for world of work, the assessments are designed to measure industry ready skills such as presentation skills, report writing skills, team-work skills (using group coursework to strengthened students? ability to work effectively in teams). The assessments also meet the requirements of British Computer Society, the accrediting body of our computer programmes. Throughout the module, students will be set formative assessment and feedback activities that will support students develop the skills and knowledge required for the summative assessments.

Mode of Assessment

Type	Method	Description	Weighting
Summative	Coursework	Assessment 1: Interim Group Report (2000 words) and Demo. SUPP 1: Group or individual scenario.	40%
Summative	Coursework	Assessment 2: Final Group Report (2000 words) and Demo. SUPP 2: Group or individual scenario.	50%
Summative	Presentation	Assessment 3: Short Oral team-based Presentation (up to 20 minutes). SUPP 3: Individual or team-based presentation.	10%
Formative		Formative feedback provided every week during the labs for the progress teams have made.	N/A

Reading List
To access the reading list for this module, please visit https://bradford.rl.talis.com/index.html

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.