Faculty of Science and Technology

Department of Computer Science

UNDERGRADUATE INDIVIDUAL PROJECT

CST3990

Module Leader: Dr Can Başkent

Autumn term 2023-2024

Duration: 24 weeks

Online location of handbook

This handbook can also be accessed via My Learning.

Other formats available

This handbook is available in a large print format. If you would like a large print copy or have other requirements for the handbook, please contact the Disability Support Service disability@mdx.ac.uk

Disclaimer

The material in this handbook is as accurate as possible at the date of production. You will be notified of any minor changes promptly. If there are any major changes to the module you will be consulted prior to the changes being confirmed. Please check the version number on the front page of this handbook to ensure that you are using the most accurate information.

Other documents

Your module handbook should be read and used alongside your programme handbook and the information available to all students on My Learning and UniHub, including the Academic Regulations. Your programme handbook can be found on the My Learning programme page for your course.

Table of Contents

1. Welcome 4
2. The Module Teaching Team 6
3. Communication with the Teaching Team 7
4. Module overview 8
5. Learning Resources 12
6. Expectations of Studying This Module 13
7. Meeting Your Supervisors 15
8. Help in Writing 16
9. Timetabled Sessions 17
10. Coursework and Assessment 18
11. Intellectual Property and Archiving the Projects 23
13. Academic Dishonesty 24
Plagiarism 24
14. Appeals 26
15. Assessment Policies 27
16. Assessment Rubrics 30

1. Welcome

An individual project is a valuable opportunity to put together your knowledge you have accumulated in your studies so far. It will produce a significant piece of work, probably the largest you have ever done by yourself. Whichever path you choose after graduation, post-graduate study, research, industry or public sector, your project work will help you to get jobs and advance your career. For this reason, it is a standard talking point in job interviews and is possibly the most important single module you will take during your degree.

Your approach to project work must exhibit an appropriate degree of professionalism, including ethical and legal principles, and business techniques, and not merely the pure application of computing science and technology.

Your engagement in project work essentially involves a significant degree of independence: you have considerable control over the precise content of your project work, and the tools you choose to develop a solution. You will need to accept responsibility for planning and executing your work.

But having said all this, it remains that by the time you start your project, you will have already acquired skills in using most if not all the tools that you will need in your project including analysis and design and programming skills. In addition, you may have had practice in using these tools in the group project development module. Equally, you may find that you need to master new tools and/or develop various skills appropriate to the tasks in hand.

The core of your project may involve software engineering including requirements specification, analysis and design, and implementation and testing of a software artefact (e.g. a program). This format does not preclude doing research; it is a question of emphasis as long as the core of the project involves software development that is relevant to the title of the programme being studied.

It is likely that you will have started to think about areas of project work of interest to you well before the start of the individual project module. By the end of your second year of studies on the programme, some issues, problems of interest, or particular aspects of the subject material in some of your taught modules might lead you to want to work on a specific topic. You may have engaged in group project work and you will have been assigned, or have chosen, a particular role as a team member within the project activity.

You may have learned about project management and have reflected upon the relevance of several general, non-technical issues that might bear not only on developments in the group project but are relevant to your own individual project. These considerations should help you define how your intended project has a role in a particular organisation, any ethical issues that might arise from the implementation of your system, and so on.

In addition, you will have learned the basics of how to present the results of a complex technical system in such a way that the key ideas are communicated effectively to a variety of audiences using a variety of media.

The relationship with your supervisor is of critical importance, particularly in the early stages of defining problems and choosing problem-solving methodologies. Uniquely, project modules provide students continuing close contact with teaching staff, all of whom have considerable research and/or industrial experience.

Project supervisors have a nominal time allowance of about 8 hours for one-to-one meetings with each project student. It is up to you, the student, to request these meetings and make the best possible use of them. You should aim to meet your supervisor once a week during the first 4 weeks of the autumn term, and at least once a fortnight thereafter. Students are required to keep a written record of these meetings - see page 10 of this handbook.

Your supervisor will certainly have an interest in your chosen project area, although he or she may not have specialised experience in some aspects of your project execution. Supervisors will help you to identify possible additional skills, knowledge and understanding required at later stages of the project. But do not expect supervisors to provide in depth knowledge on all aspects of your project or debug your software or evaluate your test results.

Module leader is there to coordinate the module and provide a unified and uniform approach.

Your project may need an approval from the departmental committee for research ethics. Your supervisor will be able to guide you through the ethics criteria for research. If you need an ethics approval, you **cannot** carry out your research before obtaining the approval. For this you may need to use Middlesex Online Research Ethics (MORE) system which provides information and guidance: https://MOREform.mdx.ac.uk
This year, we significantly simplified the process of getting ethical approval!

Finally, students must see it as an opportunity to work and show their own work. A project is a wonderful way to connect your past work and knowledge to your future career. Make the best of it!

2. The Module Teaching Team

Module Leader: Dr Can Başkent
Office Number: T131
Email: c.baskent@mdx.ac.uk
Office Hours: Wednesdays 10.00 – 12.00, T131 (Town Hall). Or over Zoom.

Each student will be assigned a supervisor – a member of staff. Your first point of contact should be your supervisor regarding anything about the module. The role of the module leader is to coordinate the module and provide a safe and fair learning environment for all.

I have put together FAQs for students (and also for supervisors) on MyLearning page of the module. Please familiarise yourselves with it. It should be your first point of inquiry, if you have any questions or concerns.

3. Communication with the Teaching Team

It is essential that you have access and regularly check your Middlesex email address. Your module leader will use that address to send announcements.

While you are working on your project, you are expected to have one-to-one meetings with your supervisor. You can discuss with your supervisor which platform you would like to use for this purpose: Zoom, Microsoft Teams, Skype etc., or you can have a face-to-face meeting. Your supervisor is advised to meet you at least every two weeks.

The module leader will send reminders and updates using myUnihub. This communication will arrive at your Middlesex email address. It is therefore imperative to have access to your Middlesex email account and check it regularly.

The module leader is likely to send urgent and/or individual messages about the module to you by email, so it is important that you read your University email regularly.

Your module leader cannot answer emails arriving from non-Middlesex email addresses. This is to protect your privacy.

4. Module overview

Aims

This module provides you with the opportunity of choosing and working on a project that reflects your interests and aims and outcomes of your programme. It should constitute a practical problem-solving project relevant to your programme of study. The primary aim of the module is to consolidate and deepen your understanding of material taught on your programme, to exercise professional judgement, to undertake individual research and to conduct an investigation and/or develop a product, process or application relevant to the focus of your programme. It provides you with the opportunity of engaging in significant system development, the typical output of which represents the solution of a problem akin to those that you as a fledgling professional practitioner are likely to encounter in future employment. The module intends that your choice of individual project will provide you with a significant opportunity to reflect on your learning progress and to develop your learning for life-long and career development.

Learning Outcomes

Knowledge On completion of this module, the successful student will be able to:

1. Apply and integrate a range of techniques and methodologies in computer science and engineering, technology, information systems, theory, research, design and evaluation to the solution of a specific and substantial problem, and recognise the professional, legal and ethical issues involved,
2. Demonstrate a comprehensive and detailed understanding of professional standards and the lifecycle of the object of your work (product, process or application), and show a critical appreciation of the selection of the tools used in its development.

Skills This module will call for the successful student to demonstrate that they can:

1. Address a complex problem with a spirit of critical enquiry, successfully demonstrating a sophisticated application of information searching, analytical competency, critical evaluation, writing and communication skills to enable effective documentation and communication for the final year project, as well as life-long personal and career development,
2. Reflect on the process of learning and personal development,
3. Demonstrate creative thinking competencies – the ability to be original or inventive and to apply lateral thinking.

Syllabus

There is no taught syllabus and students are expected to work autonomously. Some timetabled support workshops on the various stages of the project will be provided as necessary throughout the year, on topics such as plagiarism, evaluation and testing, literature review, referencing and citations, dissertation structure and research methodologies.

Whilst working on your project, you will

1. Develop a project proposal,
1. Liaise with your supervisor regularly throughout the year,
2. Prepare and submit a system analysis or literature review to the proposed project,
3. Complete an ethics approval application if necessary,
4. Design and develop an artefact,
5. Design and implement a test plan and evaluation,
6. Submit a final report,
7. Give a demonstration of the finished software artefact.

Assessment

Coursework with the following four deliverable components:
1. Project proposal: 10%
2. Interim coursework: 20%
3. Final report: 40%
4. Viva: 30%

Students are expected to produce an artefact. The nature of this artefact will be determined by the programme of study and the supervisor with moderation from the module leader. For example, in programmes where software development plays a significant role, the artefact might be expected to be a piece of software. It might be the evaluation and modelling of a network or a novel visualisation of data. Extended literature reviews are not acceptable as student projects; however, they might form a significant part of some projects where analysis of literature leads to a set of heuristics or new ways of modelling data. The project work should not be an extension of student's existing or previous coursework.

Formative feedback is given in meetings with the supervisor. Students should receive an average of 20 minutes a week supervision. It is the responsibility of the student to send details of any work completed to the supervisor prior to meetings, in order to use the time constructively.

Attendance at the viva presentation is compulsory. Students can not pass the module if they do not receive a passing mark on the final report and the viva.

Notice that the percentage weight of the report and the viva is updated this academic year.

Assessment Weighting Coursework 100%

Total Notional Learning Hours 300

I have put together FAQs for students on MyLearning page of the module. Please familiarise yourselves with it. It should be your first point of inquiry, if you have any questions or concerns.

Research Ethics

The teaching, learning, assessment and research activities undertaken in this module have been considered and are not likely to require ethical approval.

However, please seek advice if undertaking the module entails carrying out any research activities involving **human participants, human data, animals/animal products, precious artefacts, materials, or data systems.** If you submit work that includes data gathered from or about people, this may be treated as academic misconduct and could lead to fail grade being awarded.

Research ethics approval seeks to ensure all research is designed and undertaken according to certain principles of ethical research. These include:

1. Primary concern must be given to the **safety, welfare and dignity** of participants, researchers, colleagues, the environment, and the wider community
2. Consideration of **risks** should be undertaken before research commences with the aim of minimising risks to those involved – i.e. human participants or animal subjects, colleagues, the environment and the wider community, as well as actual or potential risks to those directly or indirectly affected by the research.
3. **Informed consent** should be freely given by participants, and by a trained person when collecting or analysing human tissue.
4. Respect for the **privacy, confidentiality and anonymity** of participants
5. Consideration of the rights of **people who may be vulnerable** (by virtue of perceived or actual differences in their social status, ethnic origin, gender, mental capacities, or other such characteristics) who may be less competent or able to refuse to give consent to participate
6. Researchers have a responsibility to the general public and to their profession; as such they should balance the anticipated benefits of their research against **potential harm, misuse or abuse** which must be avoided
7. Researchers must demonstrate the highest standards of **ethical conduct and research integrity**. They must work within the limits of their skills, training and experience, and refrain from exploitation, dishonesty, plagiarism, infringement of intellectual property rights and the fabrication of research results. They should declare any actual or potential conflicts of interest, and where necessary take steps to resolve them.
8. When using human tissues for research, Human Tissue Act and Human Tissue Authority (HTA) requirements must be met. Please contact the relevant designated person (DP) in your department or the HTA Designated Individual (DI) (Dr Lucy Ghali - L.Ghali@mdx.ac.uk). Further information is provided below in the section: "Human Tissue Authority Information", see 'Governance Structure" document and SOPs etc.
9. Research should **not involve any illegal activity**, and researchers must comply with all relevant laws.

For more information about ethics go to the Middlesex Online Research Ethics (MORE) system which has information and guidance to help you meet the highest standards of ethical research using this link: https://MOREform.mdx.ac.uk

Information and further guidance on how to complete a research ethics application form (e.g., video guides and templates) can be found on the MORE MyLearning site: http://mdx.mrooms.net/enrol/index.php?id=12277 (Log in required)

We significantly simplified the process of applying for ethics approval. If your project is low risk, now it can be signed off by your supervisor. The form must be included in your second coursework. If your project is not low risk, you must apply for an approval before the deadline of your second coursework and include the evidence of your application in your second coursework.

5. Learning Resources

As a brief outline on how to prepare projects please refer to the following book.

> *Thesis Projects: A Guide for Students in Computer Science and Information Systems, Berndtsson, Mikael; Hansson, Joergen; Olsson, B.;Lundell, Bjoern, Springer.*

This is also available at http://readinglists.mdx.ac.uk

My lectures and slides will be based on our textbook. It is highly recommended that you follow the lectures from the textbook and read all of it.

The textbook is also a great reference. Whilst working on your project, it is advisable to take a look at it to advance your understanding of how to work on a project and write a report about it.

6. Expectations of Studying This Module

Engagement Engaging with online and on-campus in-person learning and activities is integral to your success. Middlesex University supports students, enabling them to achieve their full potential.
We provide this support through a number of strategies, all of which provide our students with a supportive learning environment online, remotely, face-to-face, or blended.
Further information on engaging with your programme will be available at your Induction and updates online at UniHub
https://unihub.mdx.ac.uk/study/assessment/attendance

Mobile phones All mobile phones must be switched to silent during sessions unless directed by your tutor to do otherwise. Calls and texts cannot be made or received during sessions unless agreed with the tutor prior to the session starting. If you are observed using your mobile phone you can be asked to leave the session. Do not take pictures of the board – slides are already in MyLearning page. Instead, take note. Students learn by taking note, not by taking pictures.

Professional Behaviour and Online Conduct The programme of study you are undertaking is underpinned by developing professional behaviour and attitude. You are expected to behave in a professional, supportive manner to your peers and teachers. You must come to sessions prepared and ready to contribute where appropriate. Please remember that your University ID should be carried with you always whilst on campus and you must be able to identify yourself if asked to do so. Please conduct your email communication with fellow students, tutors and all relevant staff in a formal and courteous manner.
In the same way that we help you understand how to effectively participate in learning on campus, we also want to make sure that you can make the most of online learning. Our principles of online learning class conduct are available at: https://unihub.mdx.ac.uk/covid-19-updates-faq/online-classroom-conduct

Academic Integrity and Misconduct You should be aware of the University's academic integrity and misconduct policies and procedures. Taking unfair advantage over other students in assessment is considered a serious offence by the University. Action will be taken against any student who contravenes the regulations through negligence, foolishness or deliberate intent. Academic misconduct takes several forms, in particular:

- **Plagiarism**– using extensive unacknowledged quotations from, or direct copying of, another person's work and presenting it for assessment as if it were your own effort. This includes the use of third party essay writing services.
- **Collusion** – working together with other students (without the tutor's permission), and presenting similar or identical work for assessment.
- **Infringement of Exam Room Rules**– Communication with another candidate, taking notes to your table in the exam room and/or referring to notes during the examination.

- **Self-Plagiarism-** including any material which is identical or substantially similar to material that has already been submitted by you for another assessment in the University or elsewhere.

Students who attempt to gain unfair advantage over others through academic misconduct will be penalised by sanctions, according to the severity of the offence, which can include exclusion from the University. Links to the relevant University regulations and additional support resources can be found here:
Becoming a successful student Course which includes Academic Integrity
(You will have to log into to MyUniHub and then MyLearning to access the course.)

Full details on academic integrity and misconduct and the support available can be found at Academic Integrity | UniHub (mdx.ac.uk)

The Academic Integrity and Misconduct policy is available in our Public Policy Statements (under Academic Quality) at: Our policies | Middlesex University London (mdx.ac.uk)
Referencing & Plagiarism: Suspected of plagiarism?:
http://libguides.mdx.ac.uk/c.php?g=322119&p=2155601
Referencing and avoiding plagiarism:
https://unihub.mdx.ac.uk/study/writing-numeracy/awl-resources/writing

The Middlesex University Students' Union (MDXSU) Advice Service offers free and independent support in making an appeal, complaint or responding to any allegations of academic or non-academic misconduct.
https://www.mdxsu.com/advice

Extenuating circumstances There may be difficult circumstances in your life that affect your ability to meet an assessment deadline or affect your performance in an assessment. These are known as extenuating circumstances or 'ECs'. Extenuating circumstances are exceptional, seriously adverse and outside of your control. Please see link for further information and guidelines:
https://unihub.mdx.ac.uk/your-study/assessment-and-regulations/extenuating-circumstances

7. Meeting Your Supervisors

We expect you to take the initiative in the first weeks of the Autumn term and contact your supervisor to arrange your first project meeting. You may contact them by email, on their office phone number or by attending at their office during the office hours shown on the office door.

At the first project meeting, we would strongly advise you to agree with your supervisor a time for regular weekly meetings for the duration of the project. Once the project is under way and you have agreed tasks on which to work, you may find that you do not need to meet every week. However, keeping a regular weekly meeting slot in your timetable and your supervisor's is the best way to make sure you stay in contact with your supervisor.
Because your time with your supervisor is limited, you must use the time effectively. Before each meeting, you should decide on the topics you wish to discuss or the work you want to show your supervisor, and by the end of each meeting, you should have agreed the task you will carry out before the next meeting.

8. Help in Writing

If you think you need some help in organising your thoughts, searching for literature and writing your report, the library can offer some help.

Our subject librarian can be reached via the following link:
https://libguides.mdx.ac.uk/computing

The Learning Enhancement Team, Academic Writing support and Maths numeracy team can be reached via the following contact information.

- **Librarians** http://libguides.mdx.ac.uk choose Chat or Ask a Librarian
- **Learning Enhancement Team (LET)**
  https://unihub.mdx.ac.uk/study/writing-numeracy
  LET Academic Writing and Language email: AWL@mdx.ac.uk
  LET Maths, stats and numeracy email: MSN@mdx.ac.uk

Please do not hesitate the contact our librarians for support!

9. Timetabled Sessions

Throughout the year, we will organise seven sessions.

They will be between 5:00 PM – 6:30 PM on (some) Wednesdays in room COLLB C114.

The schedule of our meetings are as follows.

- September 27, 2023
- October 4, 2023
- October 11, 2023
- November 1, 2023
- November 29, 2023
- March 13, 2024
- March 20, 2024

10. Coursework and Assessment

All coursework will be submitted by uploading them to the appropriate area in myUniHub. There is no paper or email submission allowed. Submission deadlines are strict. The submission links will be deactivated after the deadline, which means that you will not be able to submit your coursework past deadline.

The marking criteria for each coursework will be available in the MyLearning page of the module.

Students will receive their marks and feedback from myUniHub as well. They will be provided using the Turnitin submission system. University rules dictate that the students are supposed to receive their feedback within 15 working days after the deadline.

Coursework 1: Project Proposal

Weight on your final mark: 10%
Deadline: For the London Campus, it is November 12, 2023, Sunday, 11 PM sharp.
Submission: Online submission to UniHub. There is no paper or email submission.

Your Project Proposal should contain:
1. a description of the project you wish to undertake,
2. a brief description of the deliverables,
3. a brief explanation of the problem you are addressing,
4. a brief explanation of how you can evaluate your work,
5. a Gantt chart clearly showing milestones and deliverables,
6. a list of resources required,
7. a list of relevant books and article/publications (at least 6).

It will typically be about 1000 words and a supervisor may expect additional material if they have provided you with an outline proposal.

Marking criteria for your Coursework 1 the Proposal is given as follows.

1. Is the project proposal at a suitable level for an Undergraduate student who is to commit about 300 hours to it?
Factors to be considered are whether objectives have been clearly stated, what breadth of investigative work needs to be carried out for the project and whether the project makes suitable demands enabling a student's skills to be demonstrated.

2. Is the project plan suitable for achieving project objectives?
Factors to be considered are whether the Proposal has a range of specific tasks been identified which are clearly related to achieving the stated project objectives, and if the plan for completing of the stated tasks clear (eg. ordering of tasks; estimation of task duration; identification of milestones; indication of engagement with project supervisor).

A final 20% will be dedicated for the style, structure and the presentation of ideas as well as language use and referencing.

In case of failure, you will be advised to revise the proposal in the light of feedback, making the necessary revisions to ensure that the project can move forward and has a realistic prospect of a successful outcome on the basis of the revisions made. There will be no formal resubmission.

Coursework 2: Background/Literature Review and Initial Development

Weight on your final mark: 20%
Deadline: For the London Campus, it is January 14, 2024, Sunday, 11 PM sharp.
Submission: Online submission to UniHub. There is no paper or email submission.

This written report must include a literature review. It should also cover other substantial development work such as requirements, analysis and design, and implementation or other documentation as agreed with your supervisor. The report should include commentary on progress achieved relative to the original Gantt Chart, and for many students will include an updated Gantt chart to accommodate performance to date.

Marking criteria for your Coursework 2 are that the work should demonstrate evidence of scholarly activity. Factors to be considered are whether the background and literature review has been clearly presented, clearly referenced, and if critical reflection applied as appropriate. Your supervisor will check whether there is a literature review and the first steps of the work is presented.

Notice that the Coursework 2 is not JUST a literature review. If the project is a research project, the first steps of developing a hypothesis or an idea must be presented. Otherwise, initial steps for an artefact or a software must be presented in addition to a literature review.

Starting from this year, low risk projects must include their ethics form in Coursework 2, signed off by their supervisors. If the project is not low risk, the evidence that the application is made to the departmental ethics committee must be included.

This assessment component does not have to be passed as an individual activity. So, in case of failure, you can proceed with the remainder of the project work despite the fail mark recorded at this stage. It will be very important that you act on the formal feedback received and further advice provided informally by the supervisor at project meetings.

Coursework 3: Final Report

Weight on your final mark: 40%
Deadline: For the London Campus, it is April 28 2024, Sunday, 11 PM.
Submission: Online submission to UniHub. There is no paper or email submission. There will be separate submission links for your report, code and, if necessary, video-viva presentation.

The Final Report is a cumulative assignment. As such, it must be passed as an individual activity. You cannot pass the module unless you pass the Report.

The typical report structure is composed of the following.

1. **Title page** It includes the module name/code, title, student name and number and supervisor's name as well as the Creative Commons licence.
2. **Abstract** It should be an approximately half a page summary of the whole project from start to finish, typically including a statement of the problem to be solved, how the problem was addressed, how the project was evaluated and what conclusions could be drawn from the work. The abstract should be left to last because it is a summary of what you actually did.
3. **Introduction** It should include a brief introduction to the project, a clear definition of the problem to be addressed, and guide to rest of the report.
4. **Background and Literature review** It should describe the context of the project and should attempt to establish the state of the art in the project area. This should show evidence of scholarly activity in demonstrating the ability to research, collate and integrate information into a coherent document that uses referencing and quotations correctly such that an intelligent computer literate person should be able to quickly understand the background to the project.
5. **Requirements specification** It should be as detailed as possible a specification of the requirements for the development of your program. In some cases, the requirements may come from tutors or users outside of academia and more formal techniques for requirements elicitation may be needed. In other cases, the student will define these requirements. This may include a test plan.
6. **Analysis and design** It should document your analysis of the requirements and the design using an appropriate method. Usually this will be UML (e.g. class diagrams, sequence diagrams etc.), but other methods can be used if appropriate. It should include a commentary on how design decisions are made.
7. **Implementation and testing** It should give details of how your design is actually implemented and how testing has been planned and conducted. For real world applications testing can be very detailed, but in student projects it is often fairly brief. You can choose to make this a feature of the project if you wish (for example you could use the Test Driven Development methodology). Software performance could also be measured against a test plan. (e.g. acceptance testing for the given stakeholder) developed at the requirements stage.
8. **Demonstration/Evaluation** In this chapter you have the opportunity to show off your program in action and evaluate how well it fulfils the requirements specification. The reader should be able to get a clear idea of what the program does and looks like without having to run the code. Some indication of program performance is expected her (e.g. screen shots, results, collated results or other output, analysis of performance, graphs etc. as appropriate) are expected here in order to demonstrate and evaluate the work. However, a detailed user guide to the software (if the work warranted it) or lengthy numeric analysis would usually appear as an appendix. The management of the project should also be discussed with reference to the Gantt charts produced, and variances from the proposed milestones and deliverables should be accounted for.

9. **Conclusion** The project should conclude with a critical and reflective evaluation of both the process and outcomes of the work. It should detail the lessons learned, how the project would be conducted if it was started over, and what future work could be done to improve the project.
10. **Appendices** Appendices should include optional additional material. This may include any other materials too detailed to be included in the main text (up to a maximum of twenty pages). A guide to how to compile, configure and run the software is essential.

Note that each of the above components will be marked individually in your Final Report. Your Final Report will also be marked by a second-marker, a member of faculty from the department, by using the same criteria.

The Final Report is a formal piece of writing. As such it needs to adhere to certain stylistic criteria.

Paper size: A4 with default margins.
Line Spacing: 1.5
Font: Arial, 12 point.
Word limit: 15,000 words, unless agreed otherwise with the supervisor. Your supervisor may increase this limit to 18,000 words.

It is our intention to archive some selected projects. For this reason, the project reports must have a Creative Commons licence.

We advise students to include the following phrase in the preamble of their work:

This work is licensed under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License.

See the details on the Creative Commons website: https://creativecommons.org

Please note that it is not compulsory to include the CC licence, and in either case you hold the copyright of your work and it remains your intellectual property as explained in Section 11 below.

Moreover, in the preamble of your report, the following honour code must be included, and signed-and-dated by the student:

"*I hereby confirm that the work presented here in this report and in all other associated material is wholly my own work*".

Viva Voce and Demonstration

Weight on your final mark: 30%
Deadline: To be determined. If done via live video, the same deadline as final report. If done face-to-face, at some time immediately after the exams.

If carried out face-to-face, this will be immediately following the exam period. Individual sessions will be arranged for each student. It is essential that students make themselves available during this period to participate. Your examiners will ask you questions about your project in order to establish the quality of your software, and to assess your understanding of the work achieved and presented in your project. You will primarily be asked to demonstrate your software but you could equally be asked to clarify or explain any part of the written work. The viva should last no longer than 30 minutes and may be recorded on video for record keeping.

Your Viva will be assessed according to the quality of your work, your understanding of the work undertaken as judged by your response to your jury's questions and also the quality and coherence of your presentation.

Similar to your Final Report, Viva will also be marked by a second-marker, a member of faculty from the department, by using the same criteria.

Please note that all three coursework has marking component for “style”. This includes technical proficiency in English as well as referencing, style, punctuation and grammar.

Before you submit your work for final grading, please ensure that you have accurately referenced the work. It is your responsibility to check the spelling and grammar, as all written assessments will assess technical proficiency in the English. This means accurate and effective spelling, punctuation and grammar. Details of how it will be assessed will be provided in the marking criteria for each assessment and the University overall approach can be found within the Grade Criteria Guide in the University Regulations https://www.mdx.ac.uk/about-us/policies (scroll to university regulations).
Reasonable adjustments will be made for those students who have a declared disability/specific learning condition which would affect performance in this area.

Reassessment for this module normally takes place in the next opportunity.
Further information is available at https://unihub.mdx.ac.uk/study/assessment

Middlesex University is committed to being fair in its approach to assessing student learning following the UK Quality Code for Higher Education (Quality Code) (2018) and the UK Quality Code - Advice and Guidance: Assessment (2018) and External Expertise (2018).

The Assessment Fairness guidance, policies and procedures put in place by Middlesex University is our commitment to ensure fairness in assessment and are available at https://www.mdx.ac.uk/about-us/policies

If you have any queries or would like to know more on how this approach has been applied to modules you are studying please contact your Programme Leader.

The detailed marking rubric of each coursework can be found at the end of this module handbook.

11. Intellectual Property and Archiving the Projects

In most cases, students hold the intellectual property rights in the work they produce for assessment. There are some exceptions such as where the work is commercially sponsored, or the aim of the module is to develop intellectual property, or where the student is sponsored or employed, or on placement. Students are asked to read the Middlesex University Policy Statement 'Intellectual Property Rights: https://myunihub.mdx.ac.uk

Archiving the Projects

It is our intention to archive some selected projects. For this reason, the project reports must have a Creative Commons licence.

We advise students to include the following phrase in the preamble of their work:

> This work is licensed under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License.

See the details on the Creative Commons website: https://creativecommons.org

Please note that it is not compulsory to include the CC licence, and in either case you hold the copyright of your work and it remains your intellectual property as explained in Section 11 above.

13. Academic Dishonesty

Taking unfair advantage in assessment is considered a serious offence by the university, which will take action against any student who contravenes the regulation through negligence, foolishness or deliberate intent.

Academic dishonesty is a corrosive force in academic life; it jeopardises the quality of education and devalues the degrees and awards of the University.

The full regulations on academic dishonesty are given in the University Guide and Regulations, Section F, Infringement of assessment regulations – Academic dishonesty.

If we identify that your paper is produced by a "paper mill", I will personally seek to it that the most serious punishment is served.

Plagiarism

Plagiarism is one specific form of cheating. It is typically discovered in coursework or laboratory assignments that are required to be completed by reliance on students' own individual effort.

It is interesting to note that one dictionary defines a plagiarist as a kind of thief: "one who steals the thoughts or writings of others and gives them out as [his/her] own". When such 'theft' is additionally used to gain academic credit to which a student is not entitled, a further level of dishonesty is clearly present that makes the original act on the student's part even worse.

The University Regulation Section F clearly sets out the University's understanding of plagiarism and the regulations by which Middlesex University students are bound. The key University regulation is F2.3:

> "F2.3 The presentation by the student as their own work of a body of material (written, visual or oral) which is wholly or partially the work of another, either in concept or expression, or which is a direct copy.
> Note: The work presented for assessment must be the candidate's own, or the work of a project group as requested by the tutor. Plagiarism is the representation of another person's published or unpublished work as the candidate's own by unacknowledged quotation. It is not an offence if the material is acknowledged by the candidate as the work of another through the accurate use of quotation marks and the provision of detailed references and a full bibliography, although the Assessment Board will not expect work to rely heavily on direct quotations."

In addition, the University Regulations set out the process for investigating allegations of plagiarism and describe the penalties. If students are found guilty, the repercussions are very serious indeed.

Students should take steps, therefore, to understand what plagiarism is, how it can be identified and how they can avoid committing it.

Electronic Plagiarism Detection The university uses "TURNITIN ", an external web based service which operates a "detection of plagiarism" facility. The detection efficiency is very high.

Students must submit their project report drafts to this service following the procedures detailed on the CST3990 MyUniHub website. The service returns a report indicating the total percentage of "similar" (copied) material, itemises the sources from which it has been copied, and indicates the amount copied from each source.

Students are allowed to quote directly from other sources provided the quotation is enclosed by "quotation marks" and the source is properly referenced. In addition, it is strongly recommended that you use italics and enclose all quotations in a table box so that it is abundantly clear to the reader.

CONVICTION OF PLAGIARISM OR COPYING MATERIAL INTO A STUDENT'S PROJECT; FROM ANY SOURCES, WILL CAUSE THE STUDENT TO FAIL, WITH THE IMPOSITION OF FURTHER SEVERE PENALTIES.

Confidentiality/ Non-disclosure Should your work and/or project report involve material of a confidential nature, you can arrange for non-disclosure, either in part or whole. This must be agreed by the module leader, your supervisor and the School Ethical Committee if appropriate.

14. Appeals

The full regulations on appeals are given in the University Regulations.

The full regulations on appeals are given in the University Guide and Regulations. Section G - Appeal regulations and procedures.

Students cannot appeal against an academic judgement of a particular grade unless there is a recorded medical reason, or some work was not assessed and there is evidence that this has NOT been taken into account in the assessment. Since the whole marking of a project is subject to academic judgement students cannot appeal against the grade for a project, unless the following conditions can be proven to apply:

(1) A student can show the presence of material that has not been assessed
(2) A breakdown of the relationship between student and supervisor

In the case of (2) appealing after the event is not enough. Student must have drawn it to the attention of the module Leader, in writing, well before submission.

The documented existence of extenuating circumstances which though not in themselves sufficient for a deferral, may be considered as adverse to the students overall performance.

15. Assessment Policies

Before you submit your work for final grading, please ensure that you have accurately referenced the work. It is your responsibility to check the spelling and grammar. If you have submitted a formative or draft assessment, you will receive feedback but no grade. The comments should inform you about how well you have done or tell you about the areas for improvement. All assignments should be submitted online unless specified in assessment briefs.

Further information is available at https://unihub.mdx.ac.uk/study/assessment/regulations

Middlesex University is committed to being fair in its approach to assessing student learning following the UK Quality Code for Higher Education (Quality Code) (2018) and the UK Quality Code - Advice and Guidance: Assessment (2018) and External Expertise (2018).

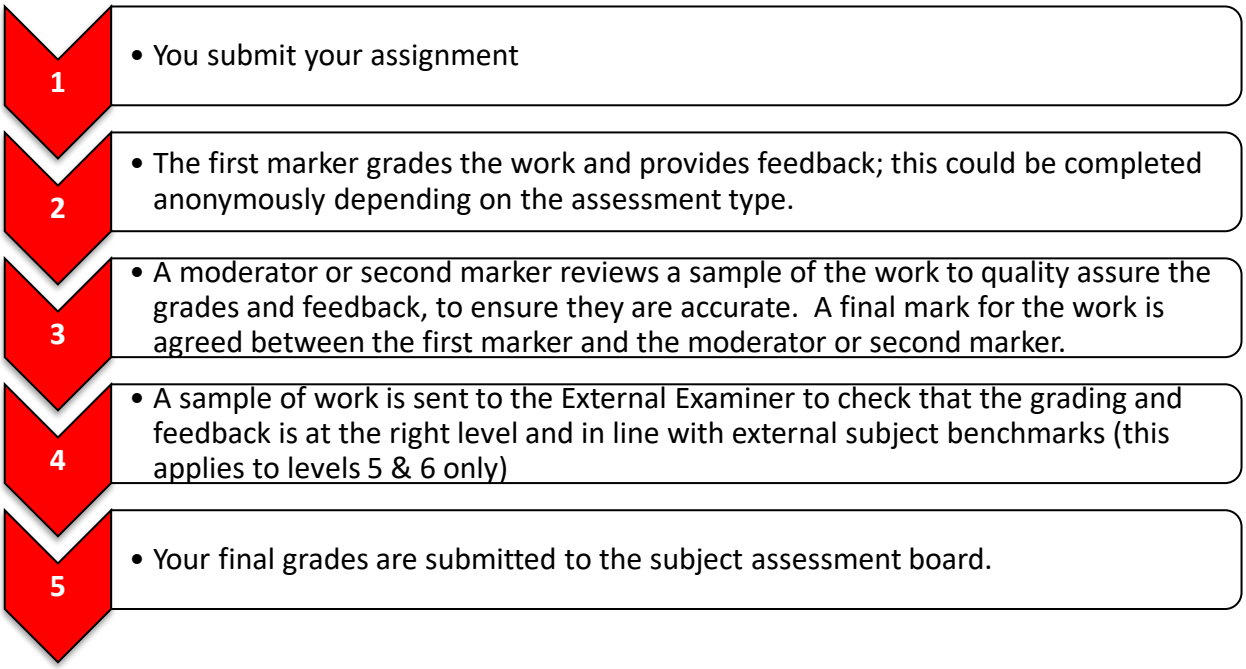
The Assessment Fairness guidance, policies and procedures put in place by Middlesex University in our commitment to ensure fairness for all in assessment, include our Academic Policy Statement APS18: Curriculum Design Policy (2018), Middlesex University Regulatory Framework Code of Assessment Practice: Section M, Academic Policy Statement APS29: Anonymous Marking Assessment Policy (2020), Equality and Diversity Policy and Codes of Practice (HRPS8), specifically code of practice 7: Curriculum, Pedagogy and Assessment and Key Principles of Assessment.

If you have any queries or would like to know more on how this approach has been applied to modules you are studying please contact your Programme Leader.

Feedback on your assignments
You will be provided with feedback on all coursework that is helpful and informative, consistent with aiding the learning and development process. The nature of the feedback shall be determined at programme level but may take a variety of forms including: written comments; individual and group tutorial feedback; peer feedback; or other forms of effective and efficient feedback.

Feedback will normally be provided within 15 WORKING DAYS of the published coursework component submission date.

How is your assignment mark agreed?
The following diagram provides an overview of the marking process for your module assessment. Further information on the role of external examiners can be found at. https://www.mdx.ac.uk/about-us/policies/academic-quality/handbook (section 4)



Anonymous Marking Assessment Policy

We have worked with the Middlesex University Students' Union (MDXSU) to create an anonymous marking policy, in response to student feedback. Anonymous marking ensures that your identity (your name, student number and other personal/identifiable information) is not made available to academics when they are marking your work. This means that you can have confidence that your assessments will be marked fairly and consistently. However, there are some forms of assessment for which anonymity cannot be guaranteed and these are recognised in the policy. We believe that it is important to provide you with the support and guidance needed to help you develop and prepare for your final assessments (those which count towards your final grades i.e. summative assessments). Therefore, anonymous marking will not apply to learning activities and assessments that do not contribute to your final grades (i.e. formative assessments). If you require further information and support to understand how anonymous marking works in your programme modules please contact the Module Leader for more information.

The Anonymous Marking Assessment Policy is available at:
https://www.mdx.ac.uk/__data/assets/pdf_file/0037/563599/anonymous-marking-assessment-policy.pdf

University 20-point Scale

20-point scale	General scale	General scale (full ranges)	Percentage used for aggregation purposes only
1	80% - 100%	79.50% - 100%	90%
2	76% - 79%	75.50% - 79.49%	77.5%
3	73% - 75%	72.50% - 75.49%	74%
4	70% - 72%	69.50% - 72.49%	71%
5	67% - 69%	66.50% - 69.49%	68%
6	65% - 66%	64.50% - 66.49%	65.5%
7	62% - 64%	61.50% - 64.49%	63%
8	60% - 61%	59.50% - 61.49%	60.5%
9	57% - 59%	56.50% - 59.49%	58%
10	55% - 56%	54.50% - 56.49%	55.5%
11	52% - 54%	51.50% - 54.49%	53%
12	50% - 51%	49.50% - 51.49%	50.5%
13	47% - 49%	46.50% - 49.49%	48%
14	45% - 46%	44.50% - 46.49%	45.5%
15	42% - 44%	41.50% - 44.49%	43%
16	40% - 41%	39.50% - 41.49%	40.5%
17	35% - 39%	34.50% - 39.49%	37%
18	30% - 34%	29.50% - 34.49%	32%
19	0% - 29%	0.01% - 29.49%	15%
20	Non-participation	0%	0% (non-submission of a component)

16. Assessment Rubrics

Assessment Rubric for the *Proposal*

CRITERIA	1- 4 // First (> 70%)	5-8 // Upper Second (60-69%)	9-12 // Lower Second (50-59%)	13-16 // Third (40-49%)	17-20 // Fail (< 40%)
Level	Ideal for final-year undergraduate level	Good for final-year level with some minor improvements	Good for final-year level with some major improvements	Borderline good for final-year level with some major improvements and replanning	Not final-year level
Plan	Contains an excellent plan which is suitable for achieving the proposed objectives and contains a Gantt chart	Contains a good plan which is suitable for achieving the proposed objectives and contains a Gantt chart	Contains a good plan which is suitable for achieving the proposed objectives and contains a good enough Gantt chart	Contains a plan which requires some planning for achieving the proposed objectives and contains a Gantt chart or not	Contains no realistic plan to achieve the proposed objectives and contains no Gantt chart
Style	Showing excellent style of technical English use and correct use of bibliography	Showing good style of technical English use and almost-correct use of bibliography	Showing good enough style of technical English use and mostly correct use of bibliography	Showing passable style of technical English use and somewhat correct use of bibliography	Showing no good style of technical English use, incorrect use of bibliography

Assessment Rubric for the *Interim Report*

CRITERIA	1- 4 // First (> 70%)	5-8 // Upper Second (60-69%)	9-12 // Lower Second (50-59%)	13-16 // Third (40-49%)	17-20 // Fail (< 40%)
Literature Review	Contains an excellent presentation of problem background and literature Shows critical reflection Reflects the state of the art of the research idea	Contains a very good presentation of problem background and literature Shows some critical reflection Reflects the state of the art of the research idea well	Contains a good presentation of problem background and literature Shows little critical reflection Reflects the state of the art of the research idea somewhat	Contains a passable but barely satisfactory presentation of problem background and literature Shows passable or very little critical reflection Reflects the state of the art of the research idea barely	Contains no good presentation of problem background and literature Shows no critical reflection Does not reflect the state of the art of the research idea
First Steps	Showing excellent first steps towards the proposed objectives, giving the sense that the research is progressing very well	Showing very good first steps towards the proposed objectives, giving the sense that the research is progressing well, requiring little correction	Showing good first steps towards the proposed objectives, giving the sense that the research is progressing well, requiring some corrections	Showing passable first steps towards the proposed objectives, giving the sense that the research is progressing well, requiring major corrections	Showing no realistic first steps towards the proposed objectives, giving the sense that the research is not progressing well at all

Style	Showing excellent style of technical English use, logical presentation, and correct use of bibliography	Showing good style of technical English use, logical presentation, and almost-correct use of bibliography	Showing good enough style of technical English use, logical presentation, and mostly correct use of bibliography	Showing passable style of technical English use, logical presentation, and somewhat correct use of bibliography	Showing no good style of technical English use, no logical presentation, incorrect use of bibliography
Ethics Approval	Give 10 if the ethics form is properly filled and included.	(no partial credit for ethics form)	(no partial credit for ethics form)	(no partial credit for ethics form)	Give 0 if there is no ethics form.

Assessment Rubric for the *Final Report*

CRITERIA	1- 4 // First (> 70%)	5-8 // Upper Second (60-69%)	9-12 // Lower Second (50-59%)	13-16 // Third (40-49%)	17-20 // Fail (< 40%)
Abstract	Abstract is good, not too short nor too long	---	Abstract is not good, either too short or too long	---	There is no abstract
Background	A clear rationale for the topic choice, excellent presentation of problem background and state of the art in the field	A good rationale for the topic choice, very good presentation of problem background and state of the art in the field that require very little correction	A good rationale for the topic choice, good presentation of problem background and state of the art in the field that require some minor corrections	Some rationale for the topic choice, somewhat passable presentation of problem background and state of the art in the field that require some major corrections	No rationale for the topic choice, not-good presentation of problem background and state of the art in the field that require some major and fundamental corrections
Contribution	Significant and excellent contributions in terms of either (or both) theory or applications.	Very good contributions in terms of either (or both) theory or applications	Good contributions in terms of either (or both) theory or applications with some minor corrections	Passable contributions in terms of either (or both) theory or applications with some major corrections	No contributions whatsoever in terms of either (or both) theory or applications at all

Evaluation	An excellent comparison with the state of the art is performed to justify the findings Excellent justification of obtained results with convincing conclusions	An very good comparison with the state of the art is performed to justify the findings A very good justification of obtained results with convincing conclusions	A good comparison with the state of the art is performed to justify the findings that require minor corrections A good justification of obtained results with somewhat convincing conclusions that require minor corrections	A passable comparison with the state of the art is performed to justify the findings that require major corrections A passable justification of obtained results with not-so conclusions, requiring major corrections	No realistic comparison with the state of the art is performed to justify the findings No real justification of obtained results with no convincing conclusions
Style	Showing excellent style of technical English use, logical presentation, and correct use of bibliography	Showing good style of technical English use, logical presentation, and almost-correct use of bibliography	Showing good enough style of technical English use, logical presentation, and mostly correct use of bibliography	Showing passable style of technical English use, logical presentation, and somewhat correct use of bibliography	Showing no good style of technical English use, no logical presentation, incorrect use of bibliography

Assessment Rubric for the *Viva*

CRITERIA	1- 4 // First (> 70%)	5-8 // Upper Second (60-69%)	9-12 // Lower Second (50-59%)	13-16 // Third (40-49%)	17-20 // Fail (< 40%)
Topic, content and contribution In-depth understanding of knowledge and the conducted work, supported by demonstrations and explanations	Very good understanding of the conducted work in relation to underpinning theories, concepts and related fields.	Significant knowledge and understanding of topics theories and concepts	Satisfactory knowledge and understanding of topics theories and concepts	Adequate content, and limited depth of knowledge and understanding	Inadequate content and limited depth of knowledge and understanding
Artefact, presentation, and communication	Excellent in structure, Logic flow, communications, effective use of presentation tools	Very good in structure, logic flow, communications, effective use of presentation	Good in structure, logic flow, communications, effective use of presentation tools	Adequate in structure, logic flow, communications, effective use of presentation tools	Poorly in structure, logic flow, communications, effective use of presentation tools
Answering Questions	Fully understanding of the questions, answering in full	Good understanding of the questions, answering them well	Average understanding of the questions and satisfactory answers	Limited understanding of the questions and limited answers	No understanding of questions and no correct answers

The End