



School of Science and Technology

Computer Engineering and Informatics

Artificial Intelligence

CST3170

Module Coordinator in Dubai: Dr Maha Saadeh

Semester 1, 2024-25

[Duration of the module: 12 weeks]

Document Version 01

Online location of handbook

This handbook can also be accessed online via MyLearning at:
<https://mdx.mrooms.net/course/view.php?id=41059>

Other formats available

This handbook is available in a large print format for students with any disability. If you would like a large print copy or have other requirements for the handbook, please contact CampusCentral via our **AskMDX service**: <https://askmdx.mdx.ac.ae> We can supply sections from this publication as:

- a Word document with enlarged type — sent by email
- printed copy with enlarged type
- printed copy on non-white paper

Other formats may be possible. We will do our best to respond promptly. To help us, please be as specific as you can about the information you require and include details of your disability.

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 MyLearning and MyMDX, including the Academic Regulations. Your programme handbook can be found on the My Learning programme page for your course. The Dubai Campus Guide can be found at www.mdx.ac.ae/life-at-university/campus-guide

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Welcome


This module is an introduction to Artificial Intelligence (AI), focusing on developing AI systems. It is focused around the three pillars of search, machine learning, and knowledge representation, though there is also an attempt to explore some AI subdomains such as vision, robotics and natural language processing.

Students are expected to attend lectures and labs. Labs will provide experience in programming and in AI techniques, so working on the lab before or after the session is encouraged.

Dr Maha Saadeh, M.Saadeh@mdx.ac.ae

The module teaching team

Please see below the details of the teaching team for this module.

Module Coordinator: Dr Maha Saadeh		
	Room number:	Block 16 – 3 rd floor. Room 309
	Email:	m.saadeh@mdx.ac.ae
	Telephone number:	+971 4 361 6254
	Office hours:	Please use the following link to book an appointment for a consultation. once you confirm a slot you will receive an email from Calendly including the MSTeams link. https://calendly.com/m-saadeh/consultation-hours

Communication with the teaching team

You are welcome to reserve an appointment during my office hours for timings that might suit us both. Please email me your appointment request along with your inquiry from your university email account / use this appointment booking link: <https://calendly.com/m-saadeh/consultation-hours>. Don't forget to state your student ID number, full name and module code and title in your email/online booking request. If you turn up at the door unannounced or phone at an unsuitable time, then you are far less likely to make contact.

I will send urgent messages about the module to you by email and/or the Microsoft Teams platform, so it is important that you read your university email and check your MS Teams notifications regularly. I recommend that you check your email and MS Teams accounts at least three times a week. I will also use these accounts to tell you about events (guest lectures or

academic enrichment sessions, for example) and career opportunities (employability workshops, internships, job offers and so on) that will help enhance your learning.

Check the Middlesex University Dubai website, MyMDX App and MDX Dubai App regularly during the semester for any other notifications or announcements. Attempt to look for basic answers to questions (e.g. by using MyMDX, Dubai Campus Guide or MDX Dubai App) before contacting staff.

Use your Middlesex email address when contacting members of staff to avoid emails being caught in University spam filters. Please also always include your full name, student number, programme name, year of study and module details when contacting staff.

For all queries that don't relate to your programme of study (e.g. fees, wellbeing, accommodation, IT issues, etc.) you should directly contact Campus Central **AskMDX** (<https://askmdx.mdx.ac.ae/>) rather than your module tutors. This will help ensure you get a response more quickly.

Take time to write polite emails (as you would in professional employment) in all communications with staff. This should include use of a clear subject line to indicate the subject of your message and previous emails on the conversation thread.

Respond to emails from staff within three working days (i.e. not including weekends, public holidays or University closure days) and allow staff the same period of time (three working days) to respond to your queries. Whilst staff may occasionally choose to respond to emails outside of normal working hours (Monday – Friday, 9am – 5pm), this should not be expected as standard. If you don't hear back from a member of staff within the three working days timeframe, then sending a reminder email is encouraged, but not sooner. You can also try raising the question with a different member of staff – e.g. your Campus Programme Leader/Coordinator. You can find contact details for these members of staff within MDX Central App. If a staff member is away from work, they may have set up an 'out of office' automated email that will provide instructions of how you can get your query answered in their absence – so make sure that you carefully read any such messages.

Contact your Module Coordinator(s) and / or the Campus Programme Leader/ Coordinator if you are absent for any period of time and cannot attend scheduled teaching.

In the first instance, any problems you face with learning on this module should be dealt with by talking to your lecturer(s) after the teaching sessions. Any overall module and course feedback can also be given to the **student voice leader** for this programme, which will be included in Programme Voice Group (PVG) meetings each semester.

MyMDX App and Web Portal

[MyMDX](#) is Middlesex University's official and free student mobile and desktop application that allows students to manage their learning online. You will need to log-in via your **@live.mdx.ac.uk** credentials. MyMDX was developed in collaboration with students to make sure they get the most

out of their studies at the University. Through MyMDX, students have access to online enrolment, research materials, teaching materials, their personal information record, and grades and assessment decisions.

You should seek the assistance of the IT Office (Helpdesk@mdx.ac.ae) if you have trouble logging in.

If you have a financial hold on your student record, you will be able log in to the MyMDX portal (deadlines apply), but links to other systems will be disabled until the financial hold is removed (please see link: <https://www.mdx.ac.ae/studentfinance/student-finance-regulations>).

Getting MyMDX is easy

Go to **App Store** >> Search for '**MyMDX**' >> Install (accept T&C's) >> Log in with Middlesex University Student IT User ID (@live.mdx.ac.uk) and Password.

Web app users can download MyMDX here: <https://mymdx.mdx.ac.uk>

Available on **iOS** and **Android** software and as a Web App

To find out more you can:

- Visit the [Example](#) page (please note that you need to be logged in to [MyMDX](#) for direct links to work)
- Search 'Example' in [MyMDX](#).

You should seek the assistance of the IT Office if you have trouble logging in. If you do not find your Modules showing on the MyMDX, please contact our Campus Central team or raise a support request via **AskMDX** (<https://askmdx.mdx.ac.ae>).

MDX Dubai App and Web Portal

[MDX Dubai](#) is a dedicated space that provides you with the key information and resources you will need as a Middlesex University Dubai student. You will need to log-in via your **@studentmdx.ac** credentials. Here you will find a key information about your weekly timetable for learning, attendance, what's happening on campus and events, live updates about all things Middlesex Dubai, the student helpdesk AskMDX (<https://askmdx.mdx.ac.ae>), and MDX social accounts.

Getting MDX Dubai is easy

- To access MDX Dubai on your browser, use the link below to log in with your 'Campus User Account' details. Your Campus User Account Email ID looks like this: **M011111111@studentmdx.ac**. You can access the MDX Central – Student Portal on your internet browser via this link: <https://mdxcentral.mdx.ac.ae>
- To access the MDX Dubai mobile app, search for and download 'MDX Dubai' via the Play Store for Android and the App Store for iOS.

Download the user guides for the [MDX Dubai Student Portal](#) and [MDX Dubai mobile app](#) for further information about how to use each platform.

Module overview

Module Narrative

Aims

The aim of the module is to introduce students to a range of AI theories and techniques, including the most commonly used. This will extend to the ability to implement these techniques, and the students will extend their own development skills.

Learning outcomes

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

1. Critically analyse common knowledge representation mechanisms.
2. Critically evaluate common machine learning mechanisms.

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

1. Ability to implement knowledge bases in common knowledge representation formats.
2. Ability to implement machine learning algorithms for particular applications.
3. Ability to use common AI development techniques and languages.

Syllabus

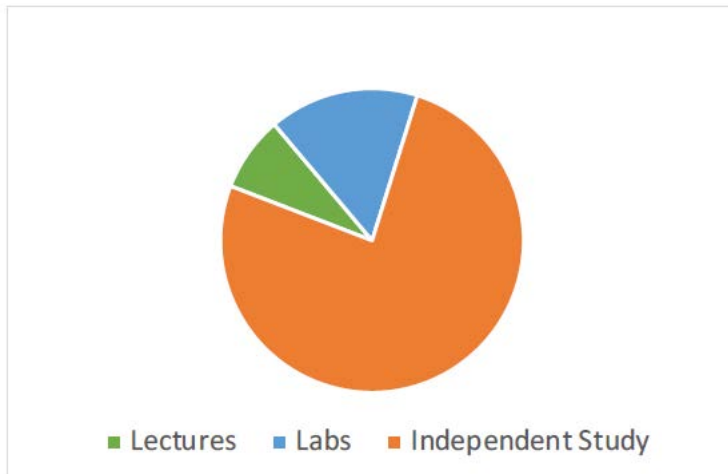
- First Order Predicate Logic
- Semantic Nets
- XML
- Statistical techniques including linear approximation.
- Multi-layer perceptrons
- Self-organising maps
- Genetic algorithms
- Rule based systems
- Case base reasoning
- Search mechanisms
- Algorithms for large data sets
- AI areas including language, vision and robotics.

Learning and teaching strategy

In-depth theoretical overview of machine learning concepts will be delivered in the form of lectures. Students will gain significant hands-on interaction with particular algorithms and representation techniques. Hands-on labs and case studies will help students apply what they learn and to develop critical thinking and complex problem-solving skills.

Scheduled Teaching: 6 Hours per week; 1 x 2hr Lecture & 1 X 3hr Lab session & 1 X 1hr Feedback session Total: 72 Hours.

Independent Study: 228 Hours



Assessment scheme

Formative assessment scheme

The workshops will be used as platforms to discuss various aspects of machine learning and algorithms and representation techniques. Feedback will be given by workshop tutors.

Summative assessment scheme

- Coursework: 75%
- In class test 25%

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 or social media**. 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 only 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 age, 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. For participants below the age of 18, parental consent must be obtained prior to the study.
7. 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
8. 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.
9. When using human tissues for research, the UK's 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).
10. Research should **not involve any illegal activity**, and researchers must comply with all relevant laws

You can apply for research ethical approval using the Middlesex University Dubai Ethics Form. The relevant forms, templates and guidance on the approval process can be obtained from the module folder on MyMDX.

Your module coordinator can provide further guidance. Additionally, documents can be found through the following link <https://bit.ly/35Zp7MZ>

Learning resources

This module has a variety of learning resources available for you to use to support your learning. These include module notes, worked examples, video links covering each lecture topic (these will be available on Unihub before the allocated lecture), and key reading materials. Your online reading lists can be accessed from the My Study area of UniHub. They highlight essential and recommended reading for all modules you are registered on. Please visit the module page regularly to make use of these.

Expectations of studying this module

Attendance and Engagement

The University's formal regulations about attendance are located in (section C2 in the 'University Regulations' section available here: <https://www.mdx.ac.uk/about-us/policies>). The main points are:

You should attend and engage with all scheduled classes and prescribed activities. Studies have shown that a good student engagement has a positive impact on performance and therefore is an important factor in helping you to fulfil your academic potential. In addition, for those who are on student visas, Dubai's regulatory authorities require attendance to be monitored.

Your lecturers will maintain attendance records during scheduled teaching sessions using the MDX Dubai App. You are expected to follow any guidelines and instructions provided for proper recording of your attendance for your learning sessions.

The MDX Dubai App (available on iOS and Android) allows students to register their attendance at timetabled classes with a click of a button. All you need to do is:

1. Connect to the internet using the **#mdxDUBAI** Wi-Fi network
2. Open your MDX Dubai App
3. Log-in via your Campus User ID (M0xxxxxxx@studentmdx.ac) and password
4. Ensure that you have given permission to the MDX Dubai App to access your smartphone's location and camera settings
5. Find the correct module and timetabled class via the Calendar
6. When the tutor puts up the class QR code, use the scanner provided within the MDX App to scan the QR code.
7. You will get an automated notification onscreen within the App saying your attendance has been recorded

Middlesex University Dubai 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 support material on MyMDX is provided as a guide to the content of the class but is no substitute for interaction with your tutor and classmates. In accordance with University Regulation C2.1 for taught programmes of study, it is the responsibility of students to attend scheduled classes and prescribed activities for the modules on which they are registered.

Further information on engaging with your programme will be available at your Induction.

If you experience difficulties beyond your control, which prevents you from engaging with your module, you should notify your tutor and CampusCentral, who may be able to offer support and guidance.

Where your attendance and engagement fail to meet the minimum levels required (normally **75%** of scheduled learning sessions and activities but could be higher) to attain the learning outcomes of the module, you may be excluded from the assessment. You may have the opportunity to retake the whole module with permission from the Programme Leader, without

grade penalty, though you will have to pay the relevant additional tuition fees for the module re-registration.

Professional behaviour

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 – and the same applies to anyone the University comes in contact with related to your study. The Student Code of Conduct and Discipline Rules are available here: www.mdx.ac.ae/about-us/university-regulations/student-conduct-and-discipline-rules.

You must come to sessions prepared and ready to contribute where appropriate.

Please remember that when you are on campus, your University Student ID should be carried with you always and you must be able to identify yourself if asked to do so. You must also comply with community health precautions, and other health and safety protocols.

Please conduct your email communication with fellow students, tutors and all relevant staff in a formal and courteous manner.

Unacceptable Behaviours in Face-to-Face Interactions

- Aggressive or abusive behaviour, including shouting, bullying behaviour, physical violence, rudeness, and making threats, inappropriate gestures, or indecent comments
- Persistently interrupting or disrupting learning activities and events
- Engaging in antisocial behaviour that impacts others
- Making derogatory or discriminatory remarks about others
- Using offensive language or engaging in personal verbal attacks
- Discussing sensitive matters in public settings
- Making unsupported claims that the University or individual staff have committed criminal, corrupt, biased or perverse conduct without any evidence
- Demanding that staff set aside or make exceptions to University regulations
- Demanding responses within an unreasonable timescale or insisting on seeing specific staff members when not feasible
- Refusing to accept outcomes or solutions offered or repeatedly seeking further explanations without new information or evidence

Actions to be taken by the University or Staff

- Highlight the unacceptable behaviour(s) and explain why and what effect it is having
- Pause or end the discussion or interaction if the unacceptable behaviour remains persistent
- In serious cases, ask for removal of individuals from University facilities and report the incident to relevant Dubai authorities

- Restrict personal contact and require communication via email or written channels and/or through third parties
- Referral to appropriate disciplinary procedures

For more information, refer to the Middlesex University Dubai Regulations: www.mdx.ac.ae/about-us/university-regulations/

Laptops, Mobile phones and other devices

There are many advantages of using technology in higher education as long as we are able to address the associated challenges. You are encouraged to use your laptops, mobile phones, tablets and other communication devices as part of learning activities and for some sessions, your tutor may even require them. You must ensure that your devices do not disrupt your learning or that of other students or your tutors. **Unless you are using technology together with your tutor as part of a learning activity, all mobile phones and other communication devices must be switched to airplane mode or put on silent settings.** Calls, texts and social media activities should be avoided during the taught session unless agreed with the tutor before the start of the session. Disruptive use of devices during class can lead to students being asked to leave classes or other learning activities and face disciplinary action.

Recording of Lectures

As per section C16 of Middlesex University Regulations unauthorised audio recording, video recording or photography of lectures, or other forms of learning activities by students, is prohibited.

Limited recording by students may be permitted under exceptional circumstances only (for example, for an individual student as a “reasonable adjustment”, within the meaning of the UK’s Equalities Act), upon explicit permission provided by the tutor and, where appropriate, by everyone else involved. Permission for recording does not imply permission for publication (e.g. on Facebook, YouTube, or other Social Media), or distribution to others. Unauthorised recording of such activities violates the privacy of persons involved, may infringe on copyrights and intellectual property rights of others and can be intrusive and disruptive in a learning environment. In all cases, violation of this regulation will be managed under the student disciplinary procedures.

In addition to a violation of University Regulations, unauthorised recordings may expose students to other unintended consequences, as per UAE law. The United Arab Emirates has several laws (for example, [Federal Decree Law No. 34 of 2021 on Combatting Rumours and Cybercrimes](#)) for the protection of privacy and reputation and defamation. Some of the acts that could amount to a criminal offence are:

- possessing on an electronic device a photo taken without the subject’s consent
- posting other people’s pictures or videos online or on social media (including WhatsApp) without their consent
- tagging a person without their consent

- threatening or insulting people online
- spreading information via social media, that is not verified by the official sources
- gossiping about people or maligning them.

Further guidance is available within the University Regulations and via the Quality Office (qualityoffice@mdx.ac.ae).

Academic Integrity and Misconduct

Academic Integrity is a set of principles and values to show that you work in a professional, honest and ethical way.

Academic misconduct is a breach of the values of academic integrity. It can occur when a student cheats in an assessment or attempts to deliberately mislead an examiner that the work presented is their own when it is not. Academic misconduct is a corrosive force in the university's academic life; it jeopardises the quality of education and devalues the degrees and qualifications of the University. It includes, but is not limited to, plagiarism, self-plagiarism, commissioning or buying work from a third party or copying the work of others, unauthorised use of Generative Artificial Intelligence (Gen AI) tools and breach of examination rules.

Students who attempt to gain an 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. 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 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.

Purchasing or Commissioning - attempting to purchase or purchasing work for an assessment including, for example from the internet, or attempting to commission, or commissioning someone else to complete an assessment. Essay mills are now illegal entities, and use of them is facilitating an illegal activity.

Unauthorised use of Generative Artificial Intelligence (Gen AI) - You cannot use Generative AI tools in your assessments unless specified by the module leader. Where the use of Generative AI is allowed you must provide as a minimum

- Written acknowledgment of the use of generative artificial intelligence, the extent of use, and how generated materials were used.
- Descriptions of how the information was generated (including the prompts used).

Where generated material has not been adapted, citing and referencing using closest source types in the relevant referencing style (e.g. “artificial intelligence” or “non-recoverable sources”). Appropriate use of Artificial Intelligence (AI) is detailed in the assessment requirements grid in section 8.0 Assessments

Links to the relevant University Regulations and additional support resources can be found here:

Section F: Academic Integrity and Misconduct:

https://www.mdx.ac.uk/_data/assets/pdf_file/0030/490539/Academic-Integrity-and-Misconduct.pdf

Referencing & Plagiarism: Suspected of plagiarism?

<http://libguides.mdx.ac.uk/c.php?g=322119&p=2155601>

Referencing and avoiding plagiarism:

<https://mymdx.mdx.ac.uk/study/writing-numeracy/awl-resources/writing>

Student Success Essentials (an online self-study course available via MyLearning) includes useful information about how to approach your assessments and complete them with honesty. The course also describes what plagiarism (cheating) is and how to avoid it, so you don't face any disciplinary action. For successfully completing this course, you will be awarded Digital-Credentials and a certificate that will verify the knowledge you have gained. Digital-Credentials can be shared and promoted via LinkedIn and other digital channels.

Access to course: You will have to log into to MyMDX and then MyLearning to access the course

Full details on academic integrity and misconduct and the support available can be found at Academic Integrity | MyMDX(mdx.ac.uk) as well as on the Campus Guide at www.mdx.ac.uk/life-at-university/campus-guide.

Our Library and the Centre for Academic Success (CAS) runs workshops and clinics to help you learn how to avoid plagiarism and how to reference correctly. To get support and guidance on academic writing techniques that meet our expectations of Academic Integrity, please contact a staff member in CAS (cas@mdx.ac.uk).

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.

As a student, it's your responsibility to let the University know about any extenuating circumstances that have affected your work at the time they occur. You can request a deferral of assessment to the next assessment period, or your circumstances can be taken into account by the Programme Assessment Board when making its progression/finalist decision. If you are requesting a deferral of an assessment, you should submit an application by the deadline for completion of the assessment. If you are unable to do this, evidence must be provided which demonstrates the reason for not being able to meet the deadline, in addition to the evidence for the claim.

Extenuating Circumstances can only be requested for summative assessment, not for formative assessment. For example, only for assessment that counts towards your overall module grade.

You **MUST** provide evidence/supporting statement with any request for extenuating circumstances to be considered (except in cases of self-certification*) for a deferral to the next assessment opportunity, or for Extenuating Circumstances to be noted at the Programme Assessment board.

***Self-certification** can only be used when an extenuating circumstance **has affected you for period of 7 days or less**, i.e. a short illness that occurs at the point of assessment submission. You can apply for the following outcomes due to your Extenuating Circumstances. Please note the outcome of any Extenuating Circumstances application may be different from what has been requested:

Deferral

Your circumstances have impacted on your ability to sit your exam or complete and/or submit your assessment. You are requesting an opportunity to sit the exam or submit the work at the next assessment opportunity

ECs noted for the board only

Your circumstances may have affected your performance on other assessments for one or more modules and, although you have sat the exam or submitted the assessments, you wish the Programme Assessment Board to be aware of this in case there is a borderline decision to be made regarding your progression/finalist decision.

Deferral & ECs noted for the Board

Your circumstances have impacted on your ability to sit your exam or complete and/or submit your assessment. You are requesting an opportunity to sit the exam or submit the work at the next assessment opportunity.

There could be progression (i.e. additional year(s) of study), financial (tuition fees and scholarships) and student visa implications as a result of deferring your assessment.

For more information on how to apply for Extenuating Circumstances, please check the Assessment tile in MyMDX or contact CampusCentral via AskMDX (<https://askmdx.mdx.ac.ae>)

Assessment

Formative assessment

Formative assessments help show you and us that you are learning and understanding the material covered in this course and allow us to monitor your progress towards achieving the learning outcomes for the module. Although formative assessments do not directly contribute to the overall module mark, they do provide an important opportunity to receive feedback on your learning.

Formative assessment	Deadline
Weekly Lab sessions	Every Week
Coursework support sessions	Week 11

Summative assessment

Summative assessment is used to check the level of learning on the course. It is summative because it is based on accumulated learning during the course. The point is to ensure that students have met the learning outcomes for the course and are at the appropriate level. It is the summative assessment that determines the grade that you are awarded for the module.

There are two assessment components in this module.

The table below specifies the associated deadlines:

Summative assessment	Weighting	Deadline	Feedback
<i>In-class test</i>	%25	<i>Week 6</i>	<i>Week 8</i>
<i>Machine Learning Coursework</i>	%75	<i>Week 12</i>	<i>NA</i>

In order to pass this module, you need to pass all assessment tasks with a minimum grade of 40% or equivalent. Each assessment will be marked out of 100. The final course mark will be based on a weighted sum of the three course work marks. This sum, out of a possible 100 points, will then be converted to the 20 point scale.

Before you submit your work for final grading, please ensure that you have accurately referenced the work. It is your responsibility to check spelling and grammar as all written assessments will assess technical proficiency in 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.

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 the assessment briefs.

Reassessment for this module normally takes place in the following way:

If students fail the module (fail grades are 17, 18, 19, 20 with an overall mark between 0% and 39%) they are eligible for a re-sit. Students will be re-examined in the assessed component(s), which they have failed (please note that this can be a different assessment task). Information on what element to re-sit will be made available on the module's MyMDX site approximately two weeks after the module results have been published on MyMDX. Reassessment will take place in June/July/August. Normally you would be entitled to only one reassessment opportunity if you don't pass at first attempt.

Middlesex University is committed to being fair in its approach to assessing student learning following the [UK Quality Code for Higher Education \(Quality Code\) \(2024\)](#) 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.

Further information is available at <https://mymdx.mdx.ac.uk/study/assessment/assessment-regulations-guide>

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 Campus Programme Coordinator.

Guidance for staff is available at <https://www.intra.mdx.ac.uk/about-us/services/centre-for-academic-practice-enhancement/policy-bank>

Assessment 1 (In-Class Test)

In-Class Test						
Module code	CST3170					
Module title	Artificial Intelligence					
Exam date	Week 6 class					
Feedback type & date	After two weeks					
Description of test	<p>Written test.</p> <p>Three parts: Search space, Knowledge representation, Applications</p>					
Duration of exam	60 Minutes					
Assessed learning outcome (s)	<ul style="list-style-type: none"> LO 1&2 					
Module weighting %	25%					
Key reading and learning resources	<ul style="list-style-type: none"> All Material Slides up to Wek 6 					
Marking criteria	1-4 First	5-8 Upper Second	9-12 Lower Second	13-16 Third	17-20 Refer	
	70%+	60%-69%	50%-59%	40%-49%	Less than 40%	

The following table details the support you will be receiving for the test.

Support and Feedback sessions for Test
<p>Test briefing</p> <p>It will include three parts: Knowledge representation, Search space and Applications</p>
<p>Additional support</p> <ul style="list-style-type: none"> Lecturer Consultation: can be requested by prior appointment by sending an email to m.saadeh@mdx.ac.ae or https://calendly.com/m-saadeh/consultation-hours MyMDX: the folder on MyMDX relevant to this assessment task includes sample test questions and/or previous test papers. Centre for Academic Success (CAS) Consultation: you have the option to book individual consultations or group appointments with members of the CAS Team. These sessions have been known to help students reach their academic goals through one-on-one consultations with our highly professional and helpful CAS team members. For more information on the services offered by the CAS Team, or to book an individual consultation, you may send an email to CAS@mdx.ac.ae.

- **Instructional Resources:** The Library offers many instructional resources via their website: <https://www.mdx.ac.ae/library> where students can learn how to use the Library and its resources by watching videos, using interactive tools, and exploring Library Guides – which provides students with the information necessary to understand how to access books, eBooks, Journals, articles, databases, conference proceedings, research results, etc.
- **Liaison Librarians** – Students are encouraged to contact your Liaison Librarian who can provide expert individual or group assistance finding materials, give research support and direction, and provide general Library guidance: <https://www.mdx.ac.ae/library/liaison-librarians>
- Further teaching and learning support materials can be found on the Dubai Teaching and Learning Support MyMDX page that includes short videos, tutorials, etc produced by the CAS and Library teams. <https://mdx.mrooms.net/course/view.php?id=24990>

Assessment 2 (Machine Learning Coursework)

Machine Learning Coursework	
Module code	CST3170
Module title	Developing Artificial Intelligence
Submission date, time	End of Week 12
Feedback type & date	The tutor will mark the work, and return a filled in mark sheet after two weeks along with any device submitted (e.g. CD or memory stick).
Word count	Short report to describe the algorithm and the results.
Assignment type	Report, Code.
Assignment structure and format	<p>This work is to build a machine learning system to categorise one of the UCI digit tasks. You should develop the system on your own from scratch. You should then run a two-fold test, and report your results.</p> <p>The data is from the University of California at Irvine's Machine Learning Repository. It's the Optical Recognition of Handwritten Digits Data Set. This gives you two data sets, training set and a test set. I've converted them to two data sets data set 1, and data set 2 that should be used by your system.</p> <p>You should write a brief (1-2 page) report on your system. This should describe the algorithm you used, and why you chose this algorithm. It should also show the results of a two fold test using the provided data; a brief discussion of data usage would be useful.</p> <p>Quality of code and algorithm are important for good marks. The code should be well commented and structured. Selection of a good algorithm is also important. Simple algorithms may be effective, but a relatively complex algorithm may get you more points just for effort.</p> <p>Finally, the quality of the results do matter. To get reasonable marks you need to surpass the baseline reported on the UCI website. This is not a competition between students, but discussing performance with your colleagues will be useful.</p> <p>Note for scraping by: the base line reported on UCI website is nearest neighbor using Euclidean distance. You should be able to implement this quite easily (and might want to start with this). This should be enough to pass (10 report, 20 running, 10 code, and 5 results).</p> <p>Please submit the code, the mark sheet, and analysis to the coursework 2 folder of CST 3170 on myunihub. You are also welcome to email a copy to the tutor. Please submit the code, the mark sheet, and analysis to unihub; get a receipt. You are also welcome to email a copy to the tutor.</p>

Appropriate use of AI	<i>Not Allowed</i>
Assessed learning outcome (s)	LO: 3-5
Module weighting %	75%
Key reading and learning resources	<i>Machine Learning lectures and labs</i>

Assignment marking criteria rubric (Coursework)				
Point		Area		
20%		Report		
20%		Running Code		
20%		Quality of Code		
20%		Quality of Algorithm		
20%		Quality of Results		
1-4	5-8	9-12	13-16	17-20
70%+ Outstanding work: All requirements have been met successfully.	60%-69% Good Work: All requirements have been met successfully, However some parts could be improved.	50%-59% Average Work: Most of the requirements have been met successfully, However some are not completed.	40%-49% Weak Work: Some of the requirements have been met successfully	39% and below Fail to complete the project requirements

The following table details the support you will be receiving for this assignment and the feedback opportunities you will have.

Support and draft feedback sessions for Machine Learning Coursework
Coursework briefing <i>This work is to build a machine learning system to categorise one of the UCI digit tasks. You should develop the system on your own from scratch. You should then run a two-fold test, and report your results.</i>

Additional support

- Lecturer Consultation: can be requested by prior appointment by sending an email to m.saadeh@mdx.ac.ae or <https://calendly.com/m-saadeh/consultation-hours>
- MyMDX: the folder on MyMDX relevant to this assessment task includes sample test questions and/or previous test papers.
- Centre for Academic Success (CAS) Consultation: you have the option to book individual consultations or group appointments with members of the CAS Team. These sessions have been known to help students reach their academic goals through one-on-one consultations with our highly professional and helpful CAS team members. For more information on the services offered by the CAS Team, or to book an individual consultation, you may send an email to CAS@mdx.ac.ae.
- Instructional Resources: The Library offers many instructional resources via their website: <https://www.mdx.ac.ae/library> where students can learn how to use the Library and its resources by watching videos, using interactive tools, and exploring Library Guides – which provides students with the information necessary to understand how to access books, eBooks, Journals, articles, databases, conference proceedings, research results, etc.
- Liaison Librarians – Students are encouraged to contact your Liaison Librarian who can provide expert individual or group assistance finding materials, give research support and direction, and provide general Library guidance: <https://www.mdx.ac.ae/library/liaison-librarians>
- Further teaching and learning support materials can be found on the Dubai Teaching and Learning Support MyMDX page that includes short videos, tutorials, etc produced by the CAS and Library teams. <https://mdx.mrooms.net/course/view.php?id=24990>

Late Submission

Students must submit each component of assessment by the deadline set by the Module Leader. Non-submission of work by the deadline will result in failure in the component concerned (grade 20), unless students make an application and subsequently permission has been granted under the Extenuating Circumstances Policy (https://www.mdx.ac.uk/media/middlesex-university/about-us-pdfs/academic-quality/final_-_policy_and_procedures_for_extenuating_circumstance_24-25.pdf) for an approved deferral of assessment to the next available opportunity.

For individual written coursework only, late submission of up to 24 hours from the deadline is permissible, however, the grade for the component is reduced by 10% or equivalent (or less where this would reduce a pass grade below 40%). Students should take into consideration the impact this will have on their deadline schedule and their final grades before selecting this option.

Assessment support for students of determination

Students who have declared special needs or learning differences or an ongoing medical condition may contact the Inclusion Counsellor in the Centre for Academic Success. This will set out the reasonable additional support that will be put in place by the University to assist that student's learning and assessment. It is the student's responsibility to make arrangements and follow the procedures set by the Centre of Academic Success in order for reasonable adjustments to be put in place. This may include the option to take up to 5 calendar days late submission on individual written coursework without having a grade reduction. Check the Middlesex University's Policy and Procedures for Extenuating Circumstances Claims 2024-2025: https://www.mdx.ac.uk/media/middlesex-university/about-us-pdfs/academic-quality/final_-_policy_and_procedures_for_extenuating_circumstance_24-25.pdf

Feedback on your assignments

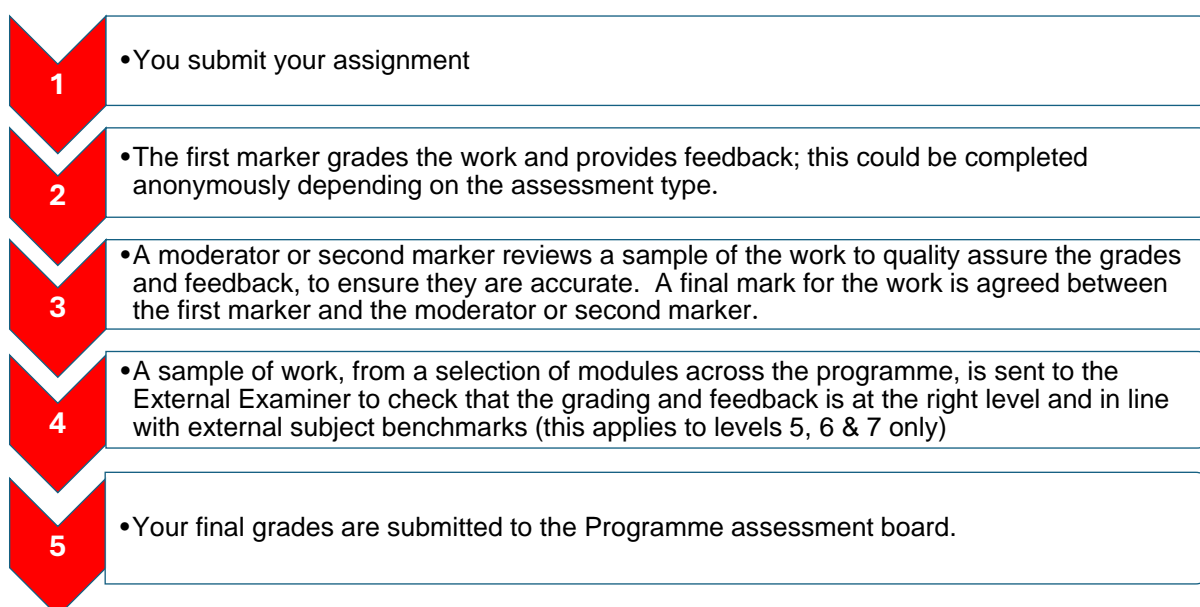
You will be provided with feedback on all coursework that is helpful and informative, consistent with aiding the learning and development process. The nature of the feedback shall be determined at programme level but may take a variety of forms including: written comments; individual and group tutorial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

If you have been asked to and 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. Feedback on summative assessments will normally be provided within 15 working days of the published submission date.

How is your assignment mark agreed?

External Examiners (external academic experts) review what we deliver at a programme level. The University reviews a sample of your work to quality assure the grades and feedback you received from the person who marked your work. Our External Examiners will sample a selection of modules from a programme, with more focus of outcomes between modules within a programme.

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 \(section 4\).](https://www.mdx.ac.uk/about-us/policies/academic-quality/handbook (section 4).)



Results Confirmation

First Semester | *Provisional Grades:* At the end of your first semester, you can see your module grades in the 'Grades and Progress' tile within MyMDX. These grades are provisional and not yet confirmed.

Second Semester | Final Grades and Progression: After your second semester, the Programme Assessment Board will confirm your grades. Then, your final module results, progression status, or finalist classification will be posted in the 'Grades and Progress' tile within MyMDX.

For help or more information:

- **University Guide:** Find detailed information in the Grades and Progress tile within MyMDX.
- **Support Team:** Ask your Programme team or reach out to CampusCentral for advice.
- **Regulations:** Check the University regulations for more details.

Anonymous Marking Assessment Policy

An anonymous marking policy has been created 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. 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

We now look at each component of assessment for this module in detail. Each of the following tables provides an overview of the requirements for each component. The support provided for each component along with the feedback arrangements, is also detailed below.

Learning Planner

SEMESTER 1

Week	Lecture	Lab	Assessment
Week 1	Introduction to Java	Java & Python Lab	
	Semantic Networks		
Week 2	Search and Search Space	State Space Search	
	Case Based Reasoning	Find the Path	
Week 3	Rule Based System	RBS Lab	
	Robotics		
Week 4	Logic	Prolog	
	NLP	chatbot	
Week 5	Genetic Algorithm	GA Lab	
	Adversarial search		
Week 6	Vision	Reviwe	
	Review		
Week 7	Planning	CW Support	
Week 8	Categorisation	Binary classifier lab	
	Line Classification		
Week 9	Neurons	MLP	
	MLP		
Week 10	SVM	SOM Lab	
	SOM		
Week 11	Utility	Utility	
	Constraint Satisfaction	CW Suppory	
Week 12	Deep Learning	CW Support	
	Conclusion		

University 20-point Scale

20-point scale	General scale	General scale (full ranges)	Percentage used for aggregation purposes only (for areas marking directly to the 20 point scale on modules with multiple assessment components)
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)