University of East London

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SCHOOL OF ARCHITECTURE, COMPUTING, & ENGINEERING
CN7050 Coursework Guidelines

Coursework instructions

- Include a Cover page to the front of the assignment with your **student ID**, **Name** and **title of the project**
- All pages to be numbered sequentially

Module code	CN7050
Module title	Intelligent Systems
Module leader	Dr Azhar Mahmood
Assignment tutor	**Lectures**: Shaheen Khatoon, Azhar Mahmood, **Lab Instructors:** Dr Shaheen Khatoon, Dr Mustansar Ali Ghanzafar, Dr. Shahera Hossain, Zulfiqar Ali, Afroza Rahman, Anas Mahdaoui, Fiza Riaz, Maimoona Sharif
Assignment title	Intelligent Systems Coursework
Assignment number	1/1
Weighting	Individual Assignment 100%
Handout date	W3
Submission date	Friday, December 19th , 2025, 11:55PM
Learning outcomes assessed by this assignment (see course handbook)	Learning Outcomes: 1-8
Turnitin submission requirement	Yes
Additional information	ASSESSMENT FEEDBACK - Feedback on your assessment will be available in four working weeks from the submission date. Please refer to the module pages on UEL+ for assessment specific details.

CN7050 Assessment: Complete all the Tasks (100 Marks)

Read the following tasks carefully to complete your coursework:

Task 1(25%) & Task 2(75%) Submission instructions:

1. Upload completed report to Turnitin before deadline.
2. Name your report with file name [Your Id-Name].
3. Mentioned the Submission date and status of tutorials of TASK 1.
4. The Turnitin link can be found on the module's Moodle site.

Task 1: Intelligent Systems –Skills Development (5x5 =25 marks)

Complete five graded tutorials to learn about the development of Intelligent systems and gain skill with hand-on practice exercises designed in tutorials. All submissions will be submitted on Moodle during each tutorial week. During the practical session, complete the given task and show to your lab instructor to get the marks. Make sure your lab instructor is recording your marks for the graded labs. Please speak to your lab instructor and seek feedback.

Weeks	Marks	Submission Date
Tutorial Week 3	5	
Tutorial Week 5	5	
Tutorial Week 7	5	
Tutorial Week 9	5	
Tutorial Week 10	5	
25 Marks		

Task 2: Design, Implement and Report an Intelligent System using Agentic AI Approach. (75 marks)

Complete an intelligent system project applying a selected workflow of any specific application area, such as

1. **Customer service:** An AI agent can handle a customer's initial inquiry, gather information, and escalate complex issues with context to a human agent.
2. **Supply chain:** AI agents can optimize inventory levels, forecast demand, and calculate the most efficient delivery routes.
3. **Human resources:** Automating the recruitment process by sifting through resumes, scheduling interviews, and processing time-off requests.
4. **IT support:** Automating tasks like password resets and resolving common IT service desk tickets.
5. Any other application workflow of your interest.

The report should include the following sections, the marks for each section are highlighted:

Application and Workflow Selection (10 Marks)

1. Introduction and Motivation of the selected application **(3 Marks)**
2. Explanation of the selected Workflow with Diagram **(4 Marks)**
3. Objectives of the selected Intelligent System **(2 Marks)**
4. Impact of the selected project if developed **(1 Mark)**

Selection of AI Technologies (10 Marks)

1. Identification of similar Systems (2–3) for the selection of Tools and Technologies **(2 Marks)**
2. Innovative and original Approaches for designing and implementing the Proposed System using existing Literature **(4 Marks)**
3. Clear Description and Justification for choosing AI Methods, Technologies, or Services *(e.g., Random Forest, KNN, DNN, BERT, Python, TensorFlow, N8N, MATLAB, Google Colab, etc.)* **(4 Marks)**

Simulations & Development Setup (30 Marks)

1. Simulation Environments and Setup Parameters **(10 Marks)**
    a. Specify the reasons for simulation platforms or environments used (e.g., OpenAI models, deep learning frameworks, cloud platforms).
    b. Include relevant setup parameters for each environment.
    c. Input Formats, Structures, and Templates
    d. Define the expected input formats for each agent in the workflow automation.
    e. Include templates or structured examples if applicable.

2. Agent-wise Task Distribution, Functionality, and Datasets **(10 Marks)**
    a. Clearly define tasks and collaboration assigned to each agent.
    b. Describe their roles, functionalities, and associated datasets.
    c. System Initiation and Expected Outputs
    d. Explain how the system is initiated or triggered.
    e. Describe the possible outputs or responses provided to the user.

3. Encoding and Data Processing Prior to Simulation **(10 Marks)**
    a. Describe any preprocessing, encoding, or transformation applied to data before running simulations.
    b. Agent Training and Testing Process
    c. Explain how agents are trained, tested, and validated.
    d. Include details such as data distribution ratios (training/testing/validation) and evaluation metrics.

A Use Case Explanation with Evidence (20 Marks)

1. Step-by-Step Workflow Execution with Evidence **(10 Marks)**
    - Select a representative use case to execute the complete workflow of the intelligent system.
    - Document each step clearly, including:
        - Data Input
        - Agent Name and Task Performed
        - Processing Details
        - Output Generated
        - Continue sequentially through all agents involved (e.g., Agent1 → Agent2 → …).
    - Capture screenshots for every step as evidence of system processing.
    - Include the output of each step processed by any agent to demonstrate proper workflow execution.
2. Developed User Interface and External Interaction **(10 Marks)**
    - Describe and captures screenshots for the UI developed for user interaction with the intelligent system.
        - Include interfaces for admin, supervisor, or other agents if applicable.
    - For any external interfaces (e.g., OpenAI models, APIs, knowledge sources), clearly define:
        - Interaction type (input/output methods)
        - Data format used for communication between the system and external resources.

Conclusions & References (5 Marks)

1. Restate the research problem addressed in the report and summarize your overall arguments or findings. **(3 Marks)**
2. Use Harvard-style referencing with recent citations from the last 5 years. For in-text citations and the reference list, use tools such as EndNote, Mendeley, or ManRef etc.
    a. Within Text citation (**1 Marks)**
    b. Using of recent references **(1 Marks)**

Plagiarism Policy

- **50% and Above Similarity Index:** Assignments with 50% or more similarity will be considered as a straight fail. Students will receive a zero grade for the assignment and may face disciplinary actions as per the university's academic integrity policies.
- **20% to 49% Similarity Index:** Penalized based on the severity of the overlap. Students may be asked to revise and resubmit the assignment with a deduction of marks (20% marks deduction).
- **Below 20% Similarity Index:** Minor overlaps with properly cited references are permissible.

Additional Resources:

You can choose any relevant datasets for your coursework. The dataset you use should have reasonable number of instance to perform individual tasks training by the agents according to the selected application.

1. **Kaggle Datasets**

You can use **Kaggle** to look for a dataset of your interest. Go to Kaggle site, select dataset and filter using category of your interest.

https://www.kaggle.com/datasets

2. **MATLAB Datasets**

MATLAB® has many datasets spanning a variety of file formats and sizes. Use any of the datasets after assuring appropriate size and classes/tasks.

https://uk.mathworks.com/help/matlab/import_export/matlab-example-data-sets.html

3. **UCI Data Repository:**

You can also explore UCI dataset repository and select dataset which interests you.
some examples of the dataset are following:
https://archive.ics.uci.edu/datasets

Questions & queries:

In case of any question and query relate to coursework, you can post your questions to MS Teams during **Week 4 & 5** on following contact details:

Dr Azhar Mahmood
Module Leader CN7050
Email & MS Teams: a.mahood3@uel.ac.uk