**Module Descriptor**

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| **Title** | AI for Project Managers | | |
| **Session** | 2025/26 | **Status** | Published |
| **Code** | QUAL11031 | **SCQF Level** | 11 |
| **Credit Points** | 20 | **ECTS (European Credit Transfer Scheme)** | 10 |
| **School** | **Computing, Engineering and Physical Sciences** | | |
| **Module Co-ordinator** | Dr M Alselek | | |

**Summary of Module**

AI for Project Managers provides an opportunity for students to understand the significance of the role of Artificial Intelligence in projects. The module would enable students to learn about, and practice, key activities such as planning, visualising and analysing project data effectively.

The module begins by introducing students to the latest developments in AI, emphasising its prevalence within the project context. Key AI concepts will be reviewed, a selection of AI tools and relevant plug-ins will be demonstrated. Students will be taught how to integrate AI in every stage of the project life cycle from Initiation to project Closure. Throughout the module students will consider how AI can be used for knowledge extraction, task automation, scenario analysis, performance analytics, predictive analysis, resource allocation, workflow optimisation, adaptive/dynamic scheduling, cost optimisation and communication. Students will learn processes and strategies for effective data structuring and prompt engineering. Moreover, students will be introduced to the various aspects surrounding the use of AI tools in an ethical and compliant manner.

Finally, the module will review the challenges and limitations of using AI tools for project management, preparing students with the capabilities and level of awareness they need to navigate the project management graduate market successfully.

This module will work to develop several 'I am UWS' Graduate Attributes to make those who complete this module:

Universal

- Critical Thinker
- Ethically-minded
- Research-minded

Work Ready

- Problem-Solver
- Effective Communicator
- Ambitious

Successful

- Autonomous
- Resilient

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| • Driven |

| Module Delivery Method | On-Campus[1] ☒ | Hybrid[2] ☐ | Online[3] ☒ | Work -Based Learning[4] ☐ |
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| Campuses for Module Delivery | | | | | |
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| ☐ Ayr<br>☐ Dumfries | | ☐ Lanarkshire<br>☐ London<br>☒ Paisley | | ☒ Online / Distance Learning<br>☐ Other (specify) | |
| **Terms for Module Delivery** | Term 1 | ☒ | Term 2 | ☒ | Term 3 | ☐ |
| **Long-thin Delivery over more than one Term** | Term 1 – Term 2 | ☐ | Term 2 – Term 3 | ☐ | Term 3 – Term 1 | ☐ |

| **Learning Outcomes** | |
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| **L1** | Develop a critical understanding of AI concepts in the context of project management. |
| **L2** | Integrate AI in every stage of the project life cycle from Initiation to project Closure. |
| **L3** | Critically apply prompt engineering to boost project productivity. |
| **L4** | Ethically use AI tools for a range of tasks such as workflow optimisation, predictive analysis, extraction and visualisation of project data to make informed decisions. |
| **L5** | N/A |

| **Employability Skills and Personal Development Planning (PDP) Skills** | |
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| **SCQF Headings** | **During completion of this module, there will be an opportunity to achieve core skills in:** |
| **Knowledge and Understanding (K and U)** | **SCQF 11**<br>K&U of concepts and developments within the AI space, and tools available to students as graduate project managers.<br>K&U of the challenges and limitations surrounding the use of AI for project managers.<br>K&U of ethical and compliant application of AI tools in projects. |

[1] Where contact hours are synchronous/ live and take place fully on campus. Campus-based learning is focused on providing an interactive learning experience supported by a range of digitally-enabled asynchronous learning opportunities including learning materials, resources, and opportunities provided via the virtual learning environment. On-campus contact hours will be clearly articulated to students.

[2] The module includes a combination of synchronous/ live on-campus and online learning events. These will be supported by a range of digitally-enabled asynchronous learning opportunities including learning materials, resources, and opportunities provided via the virtual learning environment. On-campus and online contact hours will be clearly articulated to students.

[3] Where all learning is solely delivered by web-based or internet-based technologies and the participants can engage in all learning activities through these means. All required contact hours will be clearly articulated to students.

[4] Learning activities where the main location for the learning experience is in the workplace. All required contact hours, whether online or on campus, will be clearly articulated to students

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| **Practice: Applied Knowledge and Understanding** | **SCQF 11**<br>Apply critical evaluation and synthesis to key activities such as planning, visualising and critically analysing project data effectively via the use of AI.<br>Critically review, consolidate and extend knowledge, skills practices and thinking in the application of AI to Project Management. |
| **Generic Cognitive skills** | **SCQF 11**<br>Ability to critically assess dynamic project problems via the use of Artificial Intelligence, prompt engineer, and obtain planned and controlled solutions through the means of project outputs and outcomes.<br>Critical Awareness of the challenges and ethics of using AI in Projects. |
| **Communication, ICT and Numeracy Skills** | **SCQF 11**<br>Enhanced communication skills via the writing of reports. ICT and numeracy skills developed by means of a critical appliation of AI software tools for optimisation of projects. |
| **Autonomy, Accountability and Working with Others** | **SCQF 11**<br>Develop individual and group autonomy, time management, initiative, self-directed learning, and reflection. Practicing accountability towards coursework group team members and stakeholders in the chosen project. |

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| **Prerequisites** | **Module Code** N/A | **Module Title** N/A |
| | **Other** N/A | |
| **Co-requisites** | **Module Code** N/A | **Module Title** N/A |

| **Learning and Teaching** | |
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| In line with current learning and teaching principles, a 20-credit module includes 200 learning hours, normally including a minimum of 36 contact hours and maximum of 48 contact hours.<br>The Learning & Teaching Strategy for this module is based on the general strategy for the MSc Project Management.<br>Classes are delivered on a weekly basis. Lectures will introduce and exemplify key theoretical and critical concepts. Tutorial sessions / labs will be given to further develop students' understanding and facilitate them to practice using AI. Students are given sufficient time and support to work on the coursework.<br>For Distance Learning students, full use will be made of the VLE. That is, all teaching material will be made available online and students will be guided through the material. Email and videoconferencing will be used to support students. | |
| **Learning Activities**<br>During completion of this module, the learning activities undertaken to achieve the module learning outcomes are stated below: | **Student Learning Hours**<br>(Note: Learning hours include both contact hours and hours spent on other learning activities) |
| Lecture / Core Content Delivery | 24 |

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| Tutorial / Synchronous Support Activity | 8 |
| Asynchronous Class Activity | 6 |
| Independent Study | 158 |
| Laboratory / Practical Demonstration / Workshop | 4 |
| n/a | 0 |
| **TOTAL** | 200 |

**Indicative Resources**

**The following materials form essential underpinning for the module content and ultimately for the learning outcomes:**


1. Taboada I, Daneshpajouh A, Toledo N, de Vass T. Artificial Intelligence Enabled Project Management: A Systematic Literature Review. Applied Sciences. 2023; 13(8):5014. https://doi.org/10.3390/app13085014

2. Barcaui, A., & Monat, A. (2023). Who is better in project planning?Generative artificial intelligence or project managers? Project Leadership and Society, 4(100101), 100101. https://doi.org/10.1016/j.plas.2023.100101

3. Gînguță A, Ștefea P, Noja GG, Munteanu VP. Ethical Impacts, Risks and Challenges of Artificial Intelligence Technologies in Business Consulting: A New Modelling Approach Based on Structural Equations. Electronics. 2023; 12(6):1462. https://doi.org/10.3390/electronics12061462

4. Ekin, S. (2023). Prompt engineering for ChatGPT: A quick guide to techniques, tips, and best practices. In TechRxiv. https://doi.org/10.36227/techrxiv.22683919.v2

5. Giray, L. Prompt Engineering with ChatGPT: A Guide for Academic Writers. Ann Biomed Eng 51, 2629–2633 (2023). https://doi.org/10.1007/s10439-023-03272-4

6. Sainio, K., Abrahamsson, P., Ahtee, T. (2024). Prompt Patterns for Agile Software Project Managers: First Results. In: Hyrynsalmi, S., Münch, J., Smolander, K., Melegati, J. (eds) Software Business. ICSOB 2023. Lecture Notes in Business Information Processing, vol 500. Springer, Cham. https://doi.org/10.1007/978-3-031-53227-6_14

7. Auth, G., Johnk, J., & Wiecha, D. A. (2021). A conceptual framework for applying artificial intelligence in project management. 2021 IEEE 23rd Conference on Business Informatics (CBI), 01, 161–170. https://doi.org/10.1109/CBI52690.2021.00027


**(N.B. Although reading lists should include current publications, students are advised (particularly for material marked with an asterisk*) to wait until the start of session for confirmation of the most up-to-date material)**

**Attendance and Engagement Requirements**

**In line with the Student Attendance and Engagement Procedure, Students are academically engaged if they are regularly attending and participating in timetabled on-campus and online teaching sessions, asynchronous online learning activities, course-related learning resources, and complete assessments and submit these on time.**

**For the purposes of this module, academic engagement equates to the following:**

The School of Computing, Engineering and Physical Sciences considers attendance and engagement to mean a commitment to attending, and engaging in, timetabled sessions. You will scan your attendance via the scanners each time you are on-campus and you will login to the VLE several times per week. Where you are unable to attend a timetabled learning session due to illness or other circumstance, you should notify the Programme Leader that you cannot attend. Across the School an 80% attendance threshold is set. If you fall below

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| this, you will be referred to the Student Success Team to see how we can best support your studies. |

| **Equality and Diversity** |
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| **The University's Equality, Diversity and Human Rights Procedure can be accessed at the following link: UWS Equality, Diversity and Human Rights Code.**<br><br>Aligned with the University's commitment to equality and diversity, this module supports equality of opportunity for students from all backgrounds and learning needs. Using the VLE, material will be presented electronically in formats that allow flexible access and manipulation of content. This module complies with University regulations and guidance on inclusive learning and teaching practice. Specialist assistive equipment, support provision and adjustment to assessment practice in accordance with the University's policies and regulations. |
| **(N.B. Every effort will be made by the University to accommodate any equality and diversity issues brought to the attention of the School)** |

**Supplemental Information**

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| **Divisional Programme Board** | **Engineering Physical Sciences** |
| **Overall Assessment Results** | ☐ **Pass / Fail** ☒ **Graded** |
| **Module Eligible for Compensation** | ☐ **Yes** ☒ **No**<br>**If this module is eligible for compensation, there may be cases where compensation is not permitted due to programme accreditation requirements. Please check the associated programme specification for details.** |
| **School Assessment Board** | Civil Engineering and Quality Management |
| **Moderator** | TBC |
| **External Examiner** | TBC |
| **Accreditation Details** | This module is part of a degree programme accredited by APM: Association for Project Management. |
| **Module Appears in CPD catalogue** | ☐ **Yes** ☒ **No** |
| **Changes / Version Number** | Original |

| **Assessment (also refer to Assessment Outcomes Grids below)** |
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| **Assessment 1** |
| Report (Group) |
| **Assessment 2** |
| Presentation |
| **Assessment 3** |
| N/A |
| (N.B. (i) Assessment Outcomes Grids for the module (one for each component) can be found below which clearly demonstrate how the learning outcomes of the module will be assessed.<br><br>(ii) An indicative schedule listing approximate times within the academic calendar when assessment is likely to feature will be provided within the Student Module Handbook.) |

| Component 1 | | | | | | | |
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| **Assessment Type** | **LO1** | **LO2** | **LO3** | **LO4** | **LO5** | **Weighting of Assessment Element (%)** | **Timetabled Contact Hours** |
| Group Report | ☐ | ☒ | ☐ | ☒ | ☐ | 60% | |

| Component 2 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Assessment Type** | **LO1** | **LO2** | **LO3** | **LO4** | **LO5** | **Weighting of Assessment Element (%)** | **Timetabled Contact Hours** |
| Presentation | ☒ | ☐ | ☒ | ☐ | ☐ | 40% | |

| Component 3 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Assessment Type** | **LO1** | **LO2** | **LO3** | **LO4** | **LO5** | **Weighting of Assessment Element (%)** | **Timetabled Contact Hours** |
| N/A | ☐ | ☐ | ☐ | ☐ | ☐ | | |
| **Combined total for all components** | | | | | | 100% | hours |

**Change Control**

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