MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

| **Module Information**  **معلومات المادة الدراسية** | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Module Title** | Data science ethics | | | | **Module Delivery** | | |
| **Module Type** | Support | | | | * **☒ Theory** * **☐ Lecture** * **☐ Lab** * **☐ Tutorial** * **☐ Practical** * **☐ Seminar** | | |
| **Module Code** | DSE101 | | | |
| **ECTS Credits** | 4.00 | | | |
| **SWL (hr/sem)** | 100 | | | |
| **Module Level** | | UGx1 3 | **Semester of Delivery** | | | | 6 |
| **Administering Department** | | BID | **College** | BMIC | | | |
| **Module Leader** | Lec. Jwan K ALwan | | **e-mail** | [E-jwanism@uoitc.edu.iq](mailto:E-jwanism@uoitc.edu.iq) | | | |
| **Module Leader’s Acad. Title** | | Lecturer | **Module Leader’s Qualification** | | | | M.Sc |
| **Module Tutor** | Non | | **e-mail** | E-mail | | | |
| **Peer Reviewer Name** | | omar A. M | **e-mail** | omara.m@uoitc.edu.iq | | | |
| **Scientific Committee Approval Date** | | 18/06/2023 | **Version Number** | | | 1.0 | |

| **Relation with other Modules**  **العلاقة مع المواد الدراسية الأخرى** | | | |
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| **Prerequisite module** | None | **Semester** |  |
| **Co-requisites module** | None | **Semester** |  |

| **Module Aims, Learning Outcomes and Indicative Contents**  **أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية** | |
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| **Module Aims**  **أهداف المادة الدراسية** | * Define the concept of ethics. * Explain the benefits conferred by adopting shared ethical principles. * Express why it is necessary to develop a shared set of ethical values in Data Science. |
| **Module Learning Outcomes**  **مخرجات التعلم للمادة الدراسية** | 1. Who owns data 2. How we value different aspects of privacy 3. How we get informed consent 4. What it means to be fair |
| **Indicative Contents**  **المحتويات الإرشادية** | Indicative content includes the following.   1. What are Ethics? 2. History, Concept of Informed Consent 3. Data Ownership 4. Privacy 5. Anonymity 6. Data Validity 7. Algorithmic Fairness 8. Societal Consequences 9. Code of ethics 10. Peer Graded Assignment |

| **Learning and Teaching Strategies**  **استراتيجيات التعلم والتعليم** | |
| --- | --- |
| **Strategies** | The goal is to have respectful discussions that do not violate the community space created for these conversations. Here are some productive ways to engage in this course:   * **Participate:** This is a community. Read what others have written and listen to recordings others have posted and share your thoughts. * **Stay curious:** Learn from experts and each other by listening and asking questions, not making assumptions. * **Keep your passion positive:** When replying to a discussion forum post, respond with thoughts on what was said, not about the person who posted. Avoid using all caps, too many exclamation points, or aggressive language. * **Acknowledge discomfort:** The topics discussed in this course might be challenging or hard to talk about. Stick with it and remember the benefits of having these tough conversations that surface from multiple perspectives. |

| **Student Workload (SWL)**  **الحمل الدراسي للطالب** | | | |
| --- | --- | --- | --- |
| **Structured SWL (h/sem)**  **الحمل الدراسي المنتظم للطالب خلال الفصل** | 32 | **Structured SWL (h/w)**  **الحمل الدراسي المنتظم للطالب أسبوعيا** | 2 |
| **Unstructured SWL (h/sem)**  **الحمل الدراسي غير المنتظم للطالب خلال الفصل** | 68 | **Unstructured SWL (h/w)**  **الحمل الدراسي غير المنتظم للطالب أسبوعيا** | 5 |
| **Total SWL (h/sem)**  **الحمل الدراسي الكلي للطالب خلال الفصل** | 100 | | |

| **Module Evaluation**  **تقييم المادة الدراسية** | | | | | |
| --- | --- | --- | --- | --- | --- |
|  | | **Time/Number** | **Weight (Marks)** | **Week Due** | **Relevant Learning Outcome** |
| **Formative assessment** | **Quizzes** | 2 | 15% (15) | 2, 4 | LO #1, 2 and 4 |
| **Assignments** | 2 | 10% (10) | 3, 4 | LO # 3, and 4 |
| **Report** | 1 | 10% (10) | 13 | LO # 2, 3 and 4 |
| **Summative assessment** | **Midterm Exam** | 2 hr | 15% (15) | 7 | LO # 1-3 |
| **Final Exam** | 3hr | 50% (50) | 16 | All |
| **Total assessment** | | | 100% (100 Marks) |  |  |

| **Delivery Plan (Weekly Syllabus)**  **المنهاج الاسبوعي النظري** | |
| --- | --- |
| **Week** | **Material Covered** |
| **Week 1** | * [What are Ethics?](https://www.coursera.org/learn/data-science-ethics/lecture/RVJII/what-are-ethics) * [Data Science Needs Ethics](https://www.coursera.org/learn/data-science-ethics/lecture/Ozf9b/data-science-needs-ethics) * [Case Study: Spam (not the meat)](https://www.coursera.org/learn/data-science-ethics/lecture/4BNth/case-study-spam-not-the-meat) |
| **Week 2** | * Privacy * Degrees of Privacy |
| **Week 3** | * Modern Privacy Risks * Case Study: Targeted Ads |
| **Week 4** | * Data Validity – Introduction * Validity |
| **Week 5** | Errors in Data Processing |
| **Week 6** | Errors in Model Design |
| **Week 7** | first mid exam |
| **Week 8** | Societal Consequences - Introduction |
| **Week 9** | Ossification |
| **Week 10** | Surveillance |
| **Week 11** | Case Study: Social Credit Scores |
| **Week 12** | Case Study: Predictive Policing |
| **Week 13** | Wrap Up |
| **Week 14** | Code of Ethics |
| **Week 15** | Review |

| **Learning and Teaching Resources**  **مصادر التعلم والتدريس** | | |
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|  | **Text** | **Available in the Library** |
| **Required Texts** | Real World AI Ethics for Data Scientists: Practical Case Studies | No |
| **Recommended Texts** | [**97 Things About Ethics Everyone in Data Science Should Know**](http://library.lol/main/3FC68CE148A499485DFB7E3875871D23) | No |
| **Websites** | https://www.coursera.org/learn/data-science-ethics/home/ | |

| **Grading Scheme**  **مخطط الدرجات** | | | | |
| --- | --- | --- | --- | --- |
| **Group** | **Grade** | التقدير | **Marks (%)** | **Definition** |
| **Success Group**  **(50 - 100)** | **A -** Excellent | **امتياز** | 90 - 100 | Outstanding Performance |
| **B -** Very Good | **جيد جدا** | 80 - 89 | Above average with some errors |
| **C –** Good | **جيد** | 70 - 79 | Sound work with notable errors |
| **D -** Satisfactory | **متوسط** | 60 - 69 | Fair but with major shortcomings |
| **E -** Sufficient | **مقبول** | 50 - 59 | Work meets minimum criteria |
| **Fail Group**  **(0 – 49)** | **FX –** Fail | **راسب (قيد المعالجة)** | (45-49) | More work required but credit awarded |
| **F –** Fail | **راسب** | (0-44) | Considerable amount of work required |
|  |  |  |  |  |
| **Note:** Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above. | | | | |