The Hong Kong University of Science and Technology

UG Course Syllabus Template (Simplified version uploading to SENG website)

Course Title: Decision Making with Machine Learning

Course Code: IEDA 4000B

Course Credits: 3 credits

Prerequisite: IEDA3010 Prescriptive Analytics

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Course Description

This course introduces students to the fundamental concepts, techniques, and applications of ma- chine learning algorithms in the context of decision making. Through a combination of theoretical lectures, hands-on programming assignments, and real-world case studies, students will gain a com- prehensive understanding of how machine learning can be leveraged to enhance decision-making in various domains. Topics covered include data-driven decision-making, integration of prediction and optimization, and reinforcement learning. Students will develop practical skills in implementing and evaluating machine learning models using popular frameworks and tools. By the end of the course, students will be equipped with the knowledge and skills to apply machine learning techniques to make informed decisions, optimize outcomes, and navigate the challenges associated with machine learning-enabled decision-making processes.

Assessments:

Assessment Task	Contribution to Overall Course grade (%)
Homework Assignments	30%
Mid-Term	30%
Group Project	40%

Required Texts and Materials

No required texts. Materials are derived from research papers.

[Optional] Additional Resources

[List any additional resources, such as online platforms, library resources, etc.]