The Hong Kong Polytechnic University 香港理工大學
Department of Computing 電子計算學系

Secondary Major

in

AI and Data Analytics

(人工智能及數據分析)

December 2025

This Document is applicable to students admitted from 2025/26

This document is subject to review and changes which the programme offering Faculty/Department can decide to make from time to time. Students will be informed of the changes when appropriate.

This Programme Requirement Document should be read in conjunction with the Student Handbook of the relevant year.

Contents

Part 1: General Information

1.1 Introduction

1.1.1	Programme Title	:	Secondary Major in Artificial Intelligence and Data Analytics (AIDA)
1.1.2	Host Department	:	Department of Computing
1.1.3	Credit Requirements	:	36
1.1.4	Medium of Instruction	:	English
1.1.5	Implementation Date	:	September 2022

1.2 Rationale, Aims and Objectives

1.2.1 Rationale for AIDA

Data has been characterised as the new oil; it is valuable only if it can be refined into a form that drives profitable and productive activity. Artificial intelligence and data analytics (AIDA) are undoubtedly the most prevailing technologies to carry out such a refinement process and are the most important driving forces in our data-driven society today. Through the rapid technological developments of the 21st Century, big data has become available, and with remarkable success in the past decade. AIDA is thus becoming a de-facto standard approach to enrich business, advance technology and achieve breakthroughs in virtually all fields. Therefore, it is essential for students to possess expertise in AIDA and other underpinning technologies.

PolyU is fully aware of the opportunities and challenges brought about by the new economy and the Fourth Industrial Revolution, and believes that it is indispensable for the next generation of workforce to possess expertise in AIDA and other underpinning technologies such as robotics, the Internet-of-Things (IoT), and blockchain, to name a few.

1.2.2 Aims and Objectives

The AIDA Secondary Major is designed in response to the rapidly developing fields of artificial intelligence and data analytics that are currently gaining unprecedented traction in industry as well as generating demand for qualified professionals in the job market. By integrating within the major discipline of the student, this secondary major aims to produce the next generation of graduates skilled with AI computational thinking and data analytics acumen in their chosen discipline to meet the needs of society, help improve efficiencies and augment human capabilities.

This secondary major comprises interdisciplinary and integrated programmes to equip students with a strong foundation in computer science, statistics and mathematics, so as to nurture them to make use of AIDA techniques to solve contemporary problems in a discipline of their choice.

Each academic programme offering the option of this secondary major will incorporate a block of AIDA subjects (such as programming, mathematics, statistics, big data, AI and machine learning) into the study of the academic programme focusing on a particular discipline or domain. Students will complete their study within the normal programme duration and graduate with their respective bachelor's degree, equipped with technical skills related to AIDA, coupled with the domain knowledge from a block of subjects either specially designed, or chosen from the corresponding academic programme, in addition to the GUR subjects. An Integrated Capstone Project (ICP) will be included, with the aim of developing the capabilities of a student in analysing and solving complex and potential real-life problems, as well as training them in skills related to systematic development and documentation of a significant piece of work.

1.3 Programme's Intended Learning Outcomes (PILOs)

On successful completion of this secondary major in AIDA, students will be able to:

1. Understand the fundamentals of AIDA, and have the ability to apply them.
2. Design AIDA systems, components and processes to meet given specifications and constraints.
3. Identify, formulate and solve problems relevant to AIDA.
4. Use modern IT tools appropriate to AIDA practice.
5. Know the contemporary issues, and understand the impact of AIDA solutions in a global and societal context.

1.4 Selection Mechanism

Studying a Secondary Major is a free choice by students and not mandatory. Only students with a Cumulative GPA of 2.70 or above may be considered for Secondary Major enrolment. Students must apply to and obtain approval from their programme offering Department, no later than the commencement of the second year of study, to be admitted to the Secondary Major.

Part 2: Programme Structure and Curriculum

2.1 Programme Structure

The programme structure of the Secondary Major in Artificial Intelligence and Data Analytics (AIDA) is as follows:

Artificial Intelligence and Data Analytics (AIDA)	**Credits**
Core	30-33
Mathematics I for AIDA	(3)
Mathematics II for AIDA	(3)
Programming I: Programming Fundamentals	(3)
Programming II: Data Structures and Algorithms	(3)
Fundamentals of Data Analytics	(3)
Machine Learning	(3)
Artificial Intelligence	(3)
DSR-AIDA Bridging Subject(s)	(3-6)
Integrated Capstone Project	(6)
Electives	3-6
Total	**36**

2.2 Proposed Study Pattern

Stage	Subjects	Credits
Year 2	Mathematics I for AIDA	3
	Mathematics II for AIDA	3
	Programming I: Programming Fundamentals	3
	Programming II: Data Structures and Algorithms/ Fundamentals of Data Analytics	3
Year 3	Fundamentals of Data Analytics/ Programming II: Data Structures and Algorithms	3
	Machine Learning	3
	Artificial Intelligence	3
	DSR-AIDA Bridging Subject 1	3
Year 4	Integrated Capstone Project	6
	DSR-AIDA Bridging Subject 2 / Elective 1	3
	Elective 2	3

Note that students could swap around:

1. their Fundamentals of Data Analytics/ Programming II: Data Structures and Algorithms
2. their DSR-AIDA Bridging Subjects / Elective

in the proposed study pattern based on their own plan.

2.3 List of Core and Elective Subjects

Below are the tables summarising the core and elective subjects. Note that some students such as BME may need to take slightly more credits (AMA2511/2512 for Mathematics II).

(a) Core (compulsory subjects)

Subject code	Subject title	Credits
Mathematics I for AIDA (3 credits)		
AMA1110	Basic Mathematics I – Calculus and Probability & Statistics *(for FENG students only)*	3
AMA1140	Mathematics for Construction and Environment *(for FCE students only)*	3
AMA1501	Introduction to Statistics for Business *(for students from other Faculties/ Schools)*	3
AMA1606	Basic Statistics *(for AP students only)*	3
AMA2634	Introduction to Statistics *(for AMA students only)* (Pre-requisite: AMA1006 / AMA2691 / DSAI1103)	3
Mathematics II for AIDA (3 credits)		
AMA1751	Linear Algebra *(for students from other Faculties/ Schools)* (Exclusion: AMA1007, AMA10071 & AMA1120)	3
AMA2111	Mathematics I *(for AP, FENG and LSGI students only)* (Pre-requisite: AMA1007 / AMA1120 / AMA1130 / AMA1131 / AMA1140 / AMA1500 / AMA1702 / AMA1707) (Exclusion: AMA2007, AMA2707, AMA2131, AMA2308, AMA2380, AMA2511, AMA2882 & AMA290)	3
AMA2131	Mathematics for Engineers *(for CEE students only)* (Pre-requisite: AMA1130 / AMA1131 / AMA1140) (Exclusion: AMA2007, AMA2707, AMA2111, AMA2308 & AMA290)	3
AMA2511 and AMA2512	Applied Mathematics I *(for BME students only)* (Pre-requisite: AMA1120) (Exclusion: AMA2007, AMA2707 & AMA2111) Applied Mathematics II *(for BME students only)* (Pre-requisite: AMA2511) (Exclusion: AMA2007, AMA2707 & AMA2111)	2 2
Programming I: Programming Fundamentals (3 credits)		
COMP1011	Programming Fundamentals *(for AMA students only)* (Exclusion: COMP1012 / ENG2002)	3
COMP1012	Programming Fundamentals and Applications *(for students from other Faculties/ Schools than FENG/FB)* (Exclusion: COMP1011 / ENG2002)	3
ENG2002	Computer Programming *(for FENG students only)*	3
LGT3109	Introduction to Coding for Business with Python *(for FB students only)*	3
Programming II: Data Structures and Algorithms (3 credits)		

Subject code	Subject title	Credits
DSAI2201	Data Structures and Algorithms (Pre-requisite: COMP1011 / COMP1012 / ENG2002 / LGT3109 & AMA1110 / AMA1501 / AMA2634 & AMA1751 / AMA2111 / AMA2131 / AMA2512)	3
Fundamentals of Data Analytics (3 credits)		
AMA1616	Quantitative Skills and Experimental Design for Scientists *(for FS students only)*	3
AMA2233	Data Analytics and Visualization *(for AMA students only)* (Pre-requisite: AMA2222 / COMP1011 / COMP1012)	3
DSAI1102	Data Analytics Fundamentals	3
DSAI1201	Introduction to Data Analytics	3
EIE1003	Foundations of Data Science	3
LGT/MM3425	Business Analytics *(for FB students only)* (Exclusion: LGT/MM2425 & LGT/MM3425)	3
Machine Learning (3 credits)		
AMA4680	Statistical Machine Learning (Pre-requisite: AMA2222 / AMA2222A / COMP1011 / COMP1012 & AMA2602 / AMA3602 / AMA3631 & AMA3001/ AMA3701 / AMA3723 / AMA3724)	3
DSAI4203	Machine Learning *(for students from other Faculties/ Schools than EEE)*	3
EIE3124	Fundamentals of Machine Intelligence *(for EEE students only)*	3
Artificial Intelligence (3 credits)		
COMP4431	Artificial Intelligence (Pre-requisite: COMP2011 / COMP2013 / DSAI2201)	3
DSR-AIDA Bridging Subject(s) (3-6 credits)		
AF3213	Business Analytics in Accounting and Finance (Pre-requisite: AF2108 & AF2110 & AMA1501 & LGT2425 / MM2425 / LGT3425 / MM3425)	3
AMA4602	High Dimensional Data Analysis (Pre-requisite: AMA1751 / AMA3001 / AMA3701 / AMA3723 / AMA3724 & AMA2602 / AMA3602 / AMA3631	3
AP30019	Data Analysis Techniques for Scientists (Pre-requisite: AP20005 / COMP1012)	3
BME34145	AIDA for Health Care and Smart Ageing (Pre-requisite: COMP1012 / ENG2002)	3
BRE472	Information Technology and Building Information Modelling for Construction Management	3
BSE3610	Computational Methods in Building Sciences and Engineering	3
BSE4510	Building Automation and Control (Pre-requisite: BSE2122 / BSE2124 & BSE3225 / BSE3227)	3
CBS3947	Programming and Data Analysis for Language Studies	3
CSE30313	Machine Learning Practice in Smart Mobility (Pre-requisite: AMA2007 / AMA2111 / AMA2131 / AMA2308 / AMA2707 / AMA290 & AMA2222 / AMA2222A / COMP1011 / COMP1012 / ENG2002)	3
EE4014	Intelligent Systems Applications in Electrical Engineering	3

Subject code	Subject title	Credits
EIE3127	Artificial Intelligence of Things (Pre-requisite: EIE2112 & EIE2113)	3
ENGL4022	Quantitative Literacy for Language Professionals	3
ENGL4026	Language and Social Data Analytics	3
HTM3228	Smart Service Design in Tourism and Hospitality (Pre-requisite: HTM2305)	3
HTM4362	Artificial Intelligence in Tourism and Hospitality	3
ISE3018	Logistics Automation	3
SFT304AF	Fashion Design	3
SFT330FB	Fashion Digital Marketing	3
LGT3108	Introduction to Enterprise Resource Planning System	3
LSGI3803	Spatial Data Analytics and Mining (Pre-requisite: AMA2111 & COMP1011 / COMP1012)	3
ME46002	Numerical Methods for Engineers (Pre-requisite: AMA2111)	3
MM3462	Artificial Intelligence and Big Data for Business (Pre-requisite: MM3425)	3
SD3781	Interface Design	3
SD4788	User Experience Design	3
Integrated Capstone Project (6 credits)		
AF/LGT/ MM4913	Integrated Capstone Project (Exclusion: Any other equivalent capstone project)	6
AMA4953	Integrated Capstone Project (Exclusion: AMA4951, AMA4952 or any other equivalent capstone project)	6
AP40020	Integrated Capstone Project	6
BSE4728	Integrated Capstone Project (Pre-requisite: BSE3716 & any 4 of the below subjects: BSE3124 / BSE3125 / BSE3227 / BSE3228 / BSE3313 / BSE3322) (Exclusion: Any other equivalent capstone project)	6
BRE4661	Integrated Capstone Project (Pre-requisite: BRE366) (Exclusion: Any other equivalent capstone project)	6
BME44146	Integrated Capstone Project (Pre-requisite/co-requisite: BME31147 & BME34145) (Exclusion: Any other equivalent capstone project)	6
CBS4705	Integrated Capstone Project (Exclusion: Any other equivalent capstone project)	6
CSE49407	Integrated Capstone Project (Pre-requisite: All CSE subjects in Level 3 and all core subjects in Level 1-3 of Secondary Major in AIDA) (Exclusion: Any other equivalent capstone project)	6
EE4023	Integrated Capstone Project (Pre-requisite: Students should complete most of the subjects required of the programme in previous years before taking this subject) (Exclusion: Any other equivalent capstone project)	6
EIE4128	Integrated Capstone Project	6
ENGL4027	Integrated Capstone Project (Pre-requisite: ENGL3002) (Exclusion: Any other equivalent capstone project)	6
HTM4365	Integrated Capstone Project	6

Subject code	Subject title	Credits
	(Pre-requisite: HTM3205) (Exclusion: Any other equivalent capstone project)	
ISE4001	Integrated Capstone Project (Pre-requisite: ISE3018) (Exclusion: ISE4008 Individual Project and ISE445 Capstone Project)	6
SFT4217X	Integrated Capstone Project (Exclusion: SFT415CP, SFT416CP & any other equivalent capstone project)	6
LSGI4503	Integrated Capstone Project (Pre-requisite: COMP1011 & LSGI3803) (Exclusion: Any other equivalent capstone project)	6
ME49006	Integrated Capstone Project (Pre-requisite: ME31001, ME31002, ME32001, ME33001, ME34002, ME34004, ENG2002 & ME46002) (Exclusion: ME49001)	6
SD4470	Integrated Capstone Project - Production Design (Pre-requisite: SD4466) (Exclusion: Any other equivalent capstone project)	6
SD4790	Integrated Capstone Project - Interaction Design (Pre-requisite: SD4791) (Exclusion: Any other equivalent capstone project)	6

(b) Electives (3-6 credits)

Subject code	Subject title	Credits
AAE4009	Data Science and Data-driven Optimisation in Airline and Airport Operations	3
AAE4011	Artificial Intelligence in Unmanned Autonomous Systems	3
AMA3201	Computational Methods (Pre-requisite: AMA2007 / AMA2707 / AMA2111 / AMA2131 / AMA2380 / AMA2512 / AMA2882 / AMA290 / AMA3001 / AMA3701 / AMA1120 + AMA2380 / AMA2702 + AMA3724) (Exclusion: AMA301)	3
AMA3602	Applied Linear Models for Finance Analytics (Pre-requisite: AMA1501 / AMA1502 / AMA1602 / AMA1611 / AMA2634 / DSAI1102 & AMA1007 / AMA1120 / AMA1751 / AMA2007 / AMA2707 / AMA2111) (Exclusion: AMA2631 / AMA2631A / AMA2602)	3
AMA3640	Statistical Inference (Pre-requisite: AMA1007 / AMA1120 / AMA1130 / AMA1131 / AMA1500 / AMA1611 / AMA1702 / DSAI1102 & AMA1501 / AMA1502 / AMA1602 / AMA2104 / AMA2691 / AMA2703 / DSAI1103) (Exclusion: AMA364)	3
AMA3820	Operations Research Methods (Pre-requisite: AMA1007 / AMA1102 / AMA1751 / AMA2007 / AMA2707 / AMA2111 / AMA2131 / AMA2308 / AMA2512 / AMA2882 / AMA290) (Exclusion: AMA382)	3
AMA4602	High Dimensional Data Analysis (Pre-requisite: AMA2602 / AMA3602 / AMA3631 &	3

Subject code	Subject title	Credits
	AMA1751 / AMA3001 / AMA3701 / AMA3723 / AMA3724) (Exclusion: AMA4002)	
AMA4650	Forecasting and Applied Time Series Analysis (Pre-requisite: AMA2602 / AMA3602 / AMA364 / AMA3640 / AMA4001 / AMA4601) (Exclusion: AMA465)	3
AMA4670	Modelling of Epidemic and Pandemic (Pre-requisite: AMA2691 / DSAI1103 & AMA2702)	3
AMA4688	Simulation (Pre-requisite: AMA1501 / AMA1502 / AMA1602 / AMA2601 / AMA2634 / AMA3631) (Exclusion: AMA488)	3
AMA4840	Decision Analysis (Pre-requisite: AMA1501 / AMA1502 / AMA1602 / AMA2104 / AMA2691 / AMA2703 / DSAI1103) (Exclusion: AMA484)	3
AMA4850	Optimization Methods (Pre-requisite: AMA2007 / AMA2707 / AMA2111 / AMA2131 / AMA2308 / AMA2512 / AMA2882 / AMA290 / AMA3001 / AMA3701 / AMA3724 / AMA1120 + AMA2380) (Exclusion: AMA485)	3
AP40012	Machine Learning in Physics (Pre-requisite: AP20005 / COMP1012)	3
AP40013	Energy Conversion and Storage with Machine Learning (Pre-requisite: AP20002) (Exclusion: AP40011)	3
BME34145	AIDA for Health Care and Smart Ageing (Pre-requisite: COMP1012 / ENG2002)	3
BME44144	AIDA for Biosignal Processing and Medical Imaging (Pre-requisite: BME31116)	3
BRE368	AI and Data Analytics for Smart Construction	3
BSE458	Building Performance Diagnosis and Management (Pre-requisite: BSE3712)	3
BSE4610	Building Informatics (Pre-requisite: BSE1610 & BSE2610 & BSE3227)	3
CBS3410	Python for Language Analytics (Pre-requisite: CBS3947)	3
CBS4702	Advanced Topics in Quantitative Language Studies (Pre-requisite: CBS3947)	3
CBS4703	Social Media and Social Network Analysis	3
CBS4704	Workshop on Language Analytics (Pre-requisite: CBS4958)	3
CBS4844	Machine Aided Translation	3
CBS4954	Statistics for Language Studies	3
CBS4958	Fundamentals of Computational Linguistics (Pre-requisite: CBS3947)	3
CBS4962	Corpus and Language Technology for Language Studies (Pre-requisite: CBS1902)	3
DSAI4205	Big Data Analytics (Pre-requisite: AMA1104 / AMA1110 / AMA2691 / COMP1004 & COMP1011 / COMP1012 / EIE1003 / ENG2002 & COMP2011 / COMP2013/ DSAI2201 / EIE3320 & COMP2411 / EIE3312)	3

Subject code	Subject title	Credits
	(Exclusion: COMP4434)	
COMP4436	Artificial Intelligence of Things (Pre-requisite: COMP1011 / COMP1012 / ENG2002)	3
COMP4442	Service and Cloud Computing (Pre-requisite: COMP2421 & COMP2432)	3
CSE30313	Machine Learning Practice in Smart Mobility (Pre-requisite: AMA2007 / AMA2111 / AMA2131 / AMA2308 / AMA2707 / AMA290 & AMA2222 / AMA2222A / COMP1011 / COMP1012 / ENG2002)	3
EE3013B	Transportation Data Analytics (Pre-requisite: EE2029B & CSE30390)	3
EE4014A	Intelligent Systems Applications in Electrical Engineering	3
EIE4121	Machine Learning in Cyber-security	3
EIE4122	Deep Learning and Deep Neural Networks (Pre-requisite: AMA2104 / EIE3124)	3
ENGL4022	Quantitative Literacy for Language Professionals	3
ENGL4026	Language and Social Data Analytics	3
HTI3990	Big Data Analytics for Bioinformatics and Genomic Medicine	3
HTI4990	AIDA in Clinical Diagnosis and Radiotherapy	3
HTM4350	Big Data Analytics in Hospitality, Tourism and Events (Pre-requisite: HTM3205)	3
HTM4364	Social Media and Digital Marketing Analytics (Pre-requisite: HTM2325)	3
ISE3011	Applied Quality and Reliability with AIDA	3
ISE3017	Applied AIDA in Operations Research and Management	3
SFT403FI	Smart Textiles for Wearable Applications (Exclusion: ITC4202T)	3
SFT412FB	Fashion Market Intelligence	3
SFT303AF	AI in Fashion Business	3
LSGI3220	Building Information Modelling & 3D GIS	3
LSGI3801	GeoAI	3
LSGI3802	Spatial Data Science	3
LSGI3803	Spatial Data Analytics and Mining (Pre-requisite: AMA1751 & COMP1011 / COMP1012)	3
LSGI3804	Urban Big Data Analytics	3
LSGI3805	Urban Sensing for Smart City	3
ME41006	Perceptual Robotics (Pre-requisite: ME31002)	3
ME42001	Artificial Intelligence in Products (Pre-requisite: ME31002 / ME41004)	3
ME42011	Fundamentals of Robotics (Pre-requisite: ME31002 / ME41004)	3
SD4772	Interactive Media and Marketing	3

Remarks: Departments reserve the right to revise and update the syllabi whenever appropriate and deemed necessary. Please refer to the pre-requisite/co-requisite/exclusion from the latest subject description forms provided by the subject offering department.

2.4 Curriculum Map

The relationship between Subjects and Programme's Intended Learning Outcomes (PILOs) is given as follows:

Subject	Programme's Intended Learning Outcomes (PILOs)				
	1	2	3	4	5
Mathematics I for AIDA					
AMA1110 Basic Mathematics I – Calculus and Probability & Statistics (for FENG students only)	✓		✓		
AMA1140 Mathematics for Construction and Environment (for FCE students only)	✓		✓		
AMA1501 Introduction to Statistics for Business (for students from other Faculties/ Schools)	✓		✓		
AMA1606 Basic Statistics (for AP students only)	✓		✓		
AMA2634 Introduction to Statistics (for AMA students only)	✓		✓		
Mathematics II for AIDA					
AMA1751 Linear Algebra (for students from other Faculties/ Schools)	✓		✓		
AMA2111 Mathematics I (for AP, FENG and LSGI students only)	✓		✓		
AMA2131 Mathematics for Engineers (for CEE students only)	✓		✓		
AMA2511 Applied Mathematics I & AMA2512 Applied Mathematics II (both for BME students only)	✓		✓		
Programming I: Programming Fundamentals					
COMP1011 Programming Fundamentals (for AMA students only)	✓				
COMP1012 Programming Fundamentals and Applications (for students from other Faculties/ Schools)	✓				
ENG2002 Computer Programming (for FENG students only)	✓	✓	✓	✓	
LGT3109 Introduction to Coding for Business with Python (for FB students only)	✓		✓		✓
Programming II: Data Structures and Algorithms					
DSAI2201 Data Structures and Algorithms	✓	✓	✓		
Fundamentals of Data Analytics					

Subject	Programme's Intended Learning Outcomes (PILOs)				
	1	2	3	4	5
AMA1616 Quantitative Skills and Experimental Design for Scientists (for FS students only)	✓		✓		
AMA2233 Data Analytics and Visualization (for AMA students only)	✓	✓	✓	✓	
DSAI1102 Data Analytics Fundamentals	✓	✓	✓	✓	
DSAI1201 Introduction to Data Analytics	✓	✓	✓	✓	✓
EIE1003 Foundations of Data Science	✓				✓
LGT/MM3425 Business Analytics (for FB students only)			✓		
Machine Learning					
AMA4680 Statistical Machine Learning (for AMA students only)	✓	✓	✓	✓	✓
DSAI4203 Machine Learning (for students from other Faculties/ Schools than EIE)	✓	✓	✓	✓	✓
EIE3124 Fundamentals of Machine Intelligence (for EIE students only)	✓		✓		
Artificial Intelligence					
COMP4431 Artificial Intelligence	✓	✓	✓	✓	✓
DSR-AIDA Bridging Subject					
AF3213 Business Analytics in Accounting and Finance	✓		✓	✓	✓
AMA4602 High Dimensional Data Analysis	✓		✓	✓	✓
AP30019 Data Analysis Techniques for Scientists	✓		✓		
BME34145 AIDA for Health Care and Smart Ageing	✓	✓	✓	✓	✓
BRE472 Information Technology and Building Information Modelling for Construction Management	✓		✓	✓	
BSE3610 Computational Methods in Building Sciences and Engineering	✓		✓	✓	
BSE4510 Building Automation and Control		✓	✓	✓	✓
CBS3947 Programming and Data Analysis for Language Studies	✓		✓	✓	
CSE30313 Machine Learning Practice in Smart Mobility	✓	✓	✓	✓	✓
EE4014A Intelligent Systems Applications in Electrical Engineering	✓	✓	✓	✓	
EIE3127 Artificial Intelligence of Things	✓			✓	✓
ENGL4022 Quantitative Literacy for Language Professionals	✓		✓	✓	✓

Subject	Programme's Intended Learning Outcomes (PILOs)				
	1	2	3	4	5
ENGL4026 Language and Social Data Analytics	✓		✓	✓	✓
HTM3228 Smart Service Design in Tourism and Hospitality	✓	✓	✓	✓	✓
HTM4362 Artificial Intelligence in Tourism and Hospitality	✓	✓	✓	✓	
ISE3018 Logistics Automation		✓			✓
SFT304AF Fashion Design		✓	✓	✓	
SFT330FB Fashion Digital Marketing	✓			✓	
LGT3108 Introduction to Enterprise Resource Planning System				✓	✓
LSGI3803 Spatial Data Analytics and Mining	✓	✓	✓	✓	✓
ME46002 Numerical Methods for Engineers				✓	
MM3462 Artificial Intelligence and Big Data for Business	✓		✓		
SD3781 Interface Design			✓		
SD4788 User Experience Design			✓		✓
Integrated Capstone Project					
AF/LGT/MM4913 Integrated Capstone Project	✓		✓		
AMA4953 Integrated Capstone Project	✓	✓	✓	✓	✓
AP40020 Integrated Capstone Project		✓	✓	✓	✓
BME44146 Integrated Capstone Project	✓	✓	✓	✓	✓
BRE4661 Integrated Capstone Project	✓		✓	✓	✓
BSE4728 Integrated Capstone Project	✓	✓		✓	✓
CBS4705 Integrated Capstone Project	✓	✓	✓	✓	✓
CSE49407 Integrated Capstone Project	✓	✓	✓	✓	✓
EE4023 Integrated Capstone Project	✓	✓	✓	✓	
EIE4128 Integrated Capstone Project		✓	✓	✓	
ENGL4027 Integrated Capstone Project	✓	✓	✓	✓	✓
HTM4365 Integrated Capstone Project	✓		✓		
ISE4001 Integrated Capstone Project	✓		✓	✓	✓
SFT4217X Integrated Capstone Project		✓	✓	✓	✓
LSGI4503 Integrated Capstone Project	✓	✓	✓	✓	✓
ME49006 Integrated Capstone Project	✓	✓	✓		✓
SD4470 Integrated Capstone Project - Production Design	✓		✓	✓	✓
SD4790 Integrated Capstone Project - Interaction Design	✓		✓	✓	✓
Elective					

Subject	Programme's Intended Learning Outcomes (PILOs)				
	1	2	3	4	5
AAE4009 Data Science and Data-driven Optimisation in Airline and Airport Operations				✓	✓
AAE4011 Artificial Intelligence in Unmanned Autonomous Systems			✓	✓	
AMA3201 Computational Methods		✓	✓	✓	
AMA3602 Applied Linear Models for Finance Analytics	✓		✓	✓	✓
AMA3640 Statistical Inference	✓	✓	✓		
AMA3820 Operations Research Methods	✓	✓	✓		
AMA4602 High Dimensional Data Analysis	✓		✓	✓	✓
AMA4650 Forecasting and Applied Time Series Analysis	✓		✓	✓	✓
AMA4670 Modelling of Epidemic and Pandemic		✓	✓	✓	✓
AMA4688 Simulation	✓	✓	✓	✓	✓
AMA4840 Decision Analysis	✓		✓		✓
AMA4850 Optimization Methods	✓	✓	✓		
AP40012 Machine Learning in Physics		✓	✓	✓	
AP40013 Energy Conversion and Storage with Machine Learning		✓	✓		✓
BME34145 AIDA for Health Care and Smart Ageing	✓	✓	✓	✓	✓
BME44144 AIDA for Biosignal Processing and Medical Imaging	✓	✓	✓	✓	
BRE368 AI and Data Analytics for Smart Construction	✓		✓	✓	
BSE458 Building Performance Diagnosis and Management			✓	✓	✓
BSE4610 Building Informatics	✓	✓	✓		✓
CBS3410 Python for Language Analytics	✓		✓	✓	
CBS4702 Advanced Topics in Quantitative Language Studies	✓	✓	✓	✓	✓
CBS4703 Social Media and Social Network Analysis	✓	✓	✓	✓	✓
CBS4704 Workshop on Language Analytics	✓	✓	✓	✓	✓
CBS4844 Machine Aided Translation	✓		✓	✓	✓
CBS4954 Statistics for Language Studies	✓		✓	✓	✓
CBS4958 Fundamentals of Computational Linguistics	✓		✓	✓	✓
CBS4962 Corpus and Language Technology for Language Studies	✓	✓	✓	✓	✓
DSAI4205 Big Data Analytics	✓	✓	✓	✓	✓
COMP4436 Artificial Intelligence of Things	✓	✓	✓	✓	✓

Subject	Programme's Intended Learning Outcomes (PILOs)				
	1	2	3	4	5
COMP4442 Service and Cloud Computing		✓		✓	
CSE30313 Machine Learning Practice in Smart Mobility	✓	✓	✓	✓	✓
EE3013B Transportation Data Analytics	✓	✓	✓	✓	✓
EE4014A Intelligent Systems Applications in Electrical Engineering	✓	✓	✓	✓	
EIE4121 Machine Learning in Cyber-security	✓		✓		
EIE4122 Deep Learning and Deep Neural Networks	✓		✓	✓	
ENGL4022 Quantitative Literacy for Language Professionals	✓		✓	✓	✓
ENGL4026 Language and Social Data Analytics	✓		✓	✓	✓
HTI3990 Big Data Analytics for Bioinformatics and Genomic Medicine	✓		✓	✓	✓
HTI4990 AIDA in Clinical Diagnosis and Radiotherapy	✓	✓		✓	✓
HTM4350 Big Data Analytics in Hospitality, Tourism and Events	✓	✓	✓		
HTM4364 Social Media and Digital Marketing Analytics	✓	✓	✓	✓	✓
ISE3011 Applied Quality and Reliability with AIDA	✓				✓
ISE3017 Applied AIDA in Operations Research and Management	✓			✓	✓
SFT403FI Smart Textiles for Wearable Applications		✓	✓		✓
SFT412FB Fashion Market Intelligence	✓			✓	
SFT303AF AI in Fashion Business		✓	✓	✓	
LSGI3220 Building Information Modelling & 3D GIS	✓	✓	✓	✓	✓
LSGI3801 GeoAI	✓	✓	✓	✓	✓
LSGI3802 Spatial Data Science	✓	✓		✓	✓
LSGI3803 Spatial Data Analytics and Mining	✓	✓	✓	✓	✓
LSGI3804 Urban Big Data Analytics	✓	✓	✓	✓	✓
LSGI3805 Urban Sensing for Smart City	✓	✓		✓	
ME41006 Perceptual Robotics	✓	✓	✓	✓	✓
ME42001 Artificial Intelligence in Products	✓	✓	✓		
ME42011 Fundamentals of Robotics	✓	✓	✓	✓	✓
SD4772 Interactive Media and Marketing			✓		

Appendix: Planned offering semesters for core subjects

Subject code	Subject title	Sem 1	Sem 2
Mathematics I for AIDA (3 credits)			
AMA1110	Basic Mathematics I – Calculus and Probability & Statistics	√	√
AMA1140	Mathematics for Construction and Environment	√	-
AMA1501	Introduction to Statistics for Business	√	√
AMA1606	Basic Statistics	√	-
AMA2634	Introduction to Statistics	√	√
Mathematics II for AIDA (3 credits)			
AMA1751	Linear Algebra	√	-
AMA2111	Mathematics I	√	√
AMA2131	Mathematics for Engineers	√	√
AMA2511 and AMA2512	Applied Mathematics I Applied Mathematics II	√ -	- √
Programming I: Programming Fundamentals (3 credits)			
COMP1011	Programming Fundamentals	-	√
COMP1012	Programming Fundamentals and Applications	√	-
ENG2002	Computer Programming	√	√
LGT3109	Introduction to Coding for Business with Python	-	√
Programming II: Data Structures and Algorithms (3 credits)			
DSAI2201	Data Structures and Algorithms	√	√
Fundamentals of Data Analytics (3 credits)			
AMA1616	Quantitative Skills and Experimental Design for Scientists	-	√
AMA2233	Data Analytics and Visualization	-	√
DSAI1102	Data Analytics Fundamentals	-	√
DSAI1201	Introduction to Data Analytics	√	√
EIE1003	Foundations of Data Science	-	√
LGT/MM3425	Business Analytics	√	√
Machine Learning (3 credits)			
AMA4680	Statistical Machine Learning	√	-
DSAI4203	Machine Learning	-	√

Subject code	Subject title	Sem 1	Sem 2
EIE3124	Fundamentals of Machine Intelligence	-	√
Artificial Intelligence (3 credits)			
COMP4431	Artificial Intelligence	√	√

Remarks: The subject offer arrangement will be reviewed and adjusted when needed.

Part 3: Subject Syllabi

The departments reserve the right to revise and update the syllabi whenever appropriate and deemed necessary.

The latest subject syllabi can be viewed at eStudent > Subject Search > Subject Details.