

Suggested / Example Structure of BASc(AppliedAI) Curriculum¹ (for students admitted in 2022)

Year	I		II		III		IV		
	One	Two	One	Two	One	Two	One	Two	
Disciplinary Core	APAI1001 Artificial Intelligence: Foundation, Philosophy and Ethics COMP1117 Computer Programming MATH1013 University Mathematics II	MATH2014 Multivariable Calculus and Linear Algebra STAT2601 Probability and Statistics I	COMP2119 Introduction to Data Structures and Algorithms STAT2602 Probability and Statistics II	COMP2120⁵ Computer Organization	MATH3904 Introduction to Optimization STAT3612 Statistical Machine Learning	COMP3340⁶ Applied Deep Learning			
Other		COMP2113 Programming Technologies (Pre-requisite of COMP2119)		STAT3600⁴ Linear Statistical Analysis (Co-requisite/ Pre-requisite of STAT3612) (available in both semesters)					
BASc Core (in purple font) and Disciplinary Elective (in deep blue font)	STAT1005 Essential Skills for Undergraduates: Foundations of Data Science (admission: 2020 and thereafter)	BASC9001 Foundations of Human Knowledge	DESN9002 Sustainable Leadership (admission: 2020 and thereafter)		At least 24 credits from the following courses in Lists A1-5 and B (For fulfilling the requirement of a concentration, students should choose at least 18 credits, with at least 6 credits of which should be at advanced-level, from the corresponding list) (please also refer to the remarks below): AI Technology (List A1) COMP3271 Computer Graphics COMP3356 Robotics APAI3010 Image Processing and Computer Vision APAI4011 Natural Language Processing APAI4012 High-performance computing: algorithms and applications APAI4013 Applied high-performance computing and parallel programming APAI4099 Special Topics of Applied AI AI in Business and Finance (List A2) COMP3320 Electronic Commerce Technology MATH3901 Operations Research I MATH3906 Financial Calculus STAT3613 Marketing Analytics STAT4601 Time Series Analysis APAI4099 Special Topics of Applied AI AI in Medicine (List A3) STAT3655 Survival Analysis STAT4610 Bayesian Learning APAI3021 Modern Biostatistics APAI4022 Omics Data Analysis APAI4023 Medical Image Analysis APAI4099 Special Topics of Applied AI AI in Smart City (List A4) URBS1003 Theories and Global Trends in Urban Development URBS1005 Urban Problems, Interventions and Design Thinking GEOG2090 Introduction to Geographic Information Systems GEOG2147 Building Smart Cities with GIS GEOG2156 Understanding Global Environmental Changes from Images GEOG3202 GIS in Environmental Studies GEOG3420 Transport and Society GEOG3430 Geospatial Data for Environmental Change APAI4099 Special Topics of Applied AI AI in Neurocognitive Science (List A5) PSYC1001 Introduction to Psychology PSYC2007 Cognitive Psychology PSYC2051 Perception PSYC2066 Foundations of Cognitive Science PSYC2067 Seminars in Cognitive Science APAI4099 Special Topics of Applied AI List of Other Elective Courses (List B) COMP3250 Design and Analysis of Algorithms COMP3251⁷ Algorithm Design ⁷ COMP3252⁷ Algorithm Design and Analysis ⁷ COMP3278 Introduction to Database Management Systems MATH3600 Discrete mathematics MATH3601 Numerical Analysis MATH3911 Game Theory and Strategy MATH3943 Network Models in Operations Research STAT3600 Linear Statistical Analysis STAT3622 Data Visualization STAT4602 Multivariate Data Analysis				
Capstone ³					At least 6 credits selected from the following courses: APAI3799 Directed Studies in Applied AI APAI4766 Applied AI Internship APAI4798 Applied AI Project (12 credits)				
Common Core	24 credits of common core courses within the first three years, comprising one course from each area of inquiry								
Language Courses	CAES1000² Core University English (available in both semesters)		CAES9821 Professional & Technical Communication for Mathematical Sciences (available in both semesters)		CSCI9001 Practical Chinese for Science Students (offered in both semesters)				

Remark: As one of the graduation requirements, students must fulfill at least one of the five concentrations by completing at least 18 credits of courses prescribed specially for each corresponding concentration. Students may declare concentration(s) in their senior years of study (e.g. year 3 or 4), and are recommended to pursue (a) AI Technology, and if applicable, supplemented with a second concentration from (b) to (e). Upon graduation, a certification letter confirming the completion of the chosen concentration(s) will be provided for students.

- Note 1: This table is for students' reference only for planning their studies ahead. Course offering semester and availability are subject to changes. Some courses are available in both semesters. Courses should be 6-credit bearing unless otherwise stated.
- Note 2: Candidates who have achieved Level 5 or above in English Language in the Hong Kong Diploma of Secondary Education Examination (HKDSE), or equivalent, are exempted from taking "CAES1000 Core University English". Candidates who are not exempted from Core University English will be required to take CAES1000 as supplementary credits and will thereby be required to accumulate 246 credits for graduation from the University.
- Note 3: If students take the 12-credit "Applied AI Project", they do not need to take a 6-credit elective from the "List of Other Elective Courses" (List B) above. On the other hand, students who do not take the 12-credit "Applied AI Project" are allowed to take a course in one of the Concentrations as an elective.)
- Note 4: STAT3600 also appears in the "List of Other Elective Courses (List B)". It is counted towards the fulfillment of the 24-credit requirement (as stated above) of electives in the programme.
- Note 5: Students may go for exchange in Year Two semester two and take the core course COMP2120 in Year Three or take a similar course overseas and transfer the credits back to HKU.