Suggested / Example Structure of BASc(AppliedAI) Curriculum[1] (for students admitted in 2020 and 2021)

Year	**I**		**II**		**III**		**IV**	
Semester	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	**COMP2120**[5] Computer Organization	**MATH3900** Optimization for AI and data analytics **or** **MATH3904** Introduction to Optimization **STAT3612** Statistical Machine Learning	**COMP3340**[6] Applied Deep Learning		
Other		**COMP2113** Programming Technologies (Pre-requisite of COMP2119)		**STAT3600**[4] 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)**	**DESN9002** Sustainable Leadership (admission: 2020 and thereafter)	**BASC9001** Foundations of Human Knowledge	**STAT1005** Essential Skills for Undergraduates: Foundations of Data Science (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 **COMP3251**[7] Algorithm Design[7] **COMP3252**[7] 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	**CAES1000**[2] 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.