Joint Programme:
Computational Data Science (CDASN)

(JS4416)

(This new programme to be introduced in 2022-23 is subject to confirmation of the University Senate).
What’s Computational Data Science?

Distributed system
Online algorithms
Computer vision
Mobile computing
Artificial Intelligence
Parallel computing
GPU Programming
High-performance computing
Cloud computing
Big Data
Deep Learning
Artificial Intelligence
Machine Learning
High-dimensional Inference
Text mining
Deep Learning
Computer Science

Large-scale Inference
Bayesian Learning
Sampling
Nonparametric Inference
Risk management
Statistical Learning
Actuarial Science
High-dimensional Inference
Modeling
Recommender systems
Econometrics

Statistics

Database System
Text mining
Computer Science

Risk management
Econometrics

Computer Vision
Power of Computational Data Science

How can we know the average salary in Hong Kong?

\[ \frac{1}{7 \text{ Million}} \sum_{i=1}^{7 \text{ Million}} X_i \]

• **Computer Science Approach:**

Distribute to \( m \) computers \( \rightarrow \) 
\[ \frac{1}{7 \text{ Million}} \left( \sum_{i \in \text{Group 1}} X_i + \sum_{i \in \text{Group 2}} X_i + \cdots + \sum_{i \in \text{Group } m} X_i \right) \]
Skills: Parallel computing, cloud computing, distributed system

• **Statistics Approach:**

Strategically sample \( X_{(1)}, \ldots, X_{(m)} \) \( \rightarrow \) 
\[ \frac{1}{m} \sum_{i=1}^{m} X_{(i)} \]
Skills: Sampling theory

• **Computational Data Science Approach:** Statistics + Computer Science
QS World University

CUHK: #7 (#30) in QS 2020 in Computer Science in Asia (World)

CUHK: #14 (#51-100) in QS 2020 in Statistics & Operational Research in Asia (World)

U.S. News Best Global Universities

#4 (#11) in Best Global Universities for Computer Science in Asia (World)
Recent News

Data Technology Hub debuts as cornerstone of data economy
By Oswald Chan in Hong Kong

The iconic Charles K Kao Auditorium stands among buildings in Hong Kong Science Park. The Science Park is a hub for innovation in the city. (JUSTIN CHIN / BLOOMBERG)

Hong Kong Science and Technology Parks Corp launched its Data Technology Hub on Thursday in a bid to fortify the development of the data economy, which is crucial for implementing the government’s reindustrialization initiative.

References:
https://www.chinadailyhk.com/article/156335
InnoHK Clusters Being Developed by the Government

According to The 2020-21 Budget, the Government is developing two InnoHK research clusters at the Hong Kong Science Park (Science Park), one focusing on healthcare technologies and the other on artificial intelligence and robotics technologies.

InnoHK is a major initiative of the Hong Kong Special Administrative Region Government to develop Hong Kong as the hub for global research collaboration. This involves the establishment of world-class research clusters at the Hong Kong Science Park with research laboratories set up by world renowned institutions and/or commercial entities to conduct collaborative researches.

Health@InnoHK and AiR@InnoHK will be the first two research clusters to be established progressively in the next few months.

Health@InnoHK will focus on all types of healthcare-related technologies, including for instance drug discovery, personalized medicine, molecular diagnostics, bioengineering, chemical biology, bioinformatics, vaccine development, medical instrumentation, alternative medicine etc.

AiR@InnoHK will focus on the development of Artificial Intelligence and Robotics technologies, as applied to areas like financial services, smart city and advanced manufacturing. Research focuses may cover big data analytics, machine learning, cognitive systems, intelligent agents, classification for diagnosis, medical robotics, mobile robots and assistive / service / construction robots etc.

Reference:
Special Features

• A "Computer Science/Statistics + X" programme (i.e., the X component)

• 3 specialized streams
  » Computational Physics
  » Computational Medicine
  » Computational Social Science
Mission

• Enable students to develop cutting-edge massive data analytics and management solutions that are of practical interest to academics, industry, and society

• Nurture local talents in computational statistics related applications to meet rising demand for data driven in the Information Age
Programme Objective

• Equip students with the capabilities of developing mathematical, analytical and technical skills to create solutions to guide data-driven decision making from massive information

• Backed by rigorous foundations like data structures, algorithms, statistical modeling and analysis and distributed computing system programming.
Department of Computer Science and Engineering

- The first “Computer Science” department in Hong Kong
- Offering AIST, CENG and CSCI programmes

Department of Statistics

- Statistics (STAT) was set up as an individual programme of study in 1979
- Offering STAT, RMSC and QFRM programmes
Excellence in Research and Teaching

Turing Award Recipient
Prof. Andrew Yao

State Natural Science Award (Second class)
Prof. Qiman Shao

ACM Fellows
Prof. Martin Wong, Prof. Irwin King, Prof. Michael Lyu, Prof. John Lui, Prof. Yufei Tao, etc.

ASA Fellows
Prof. Ngai Hang Chan

IEEE Fellows
Prof. Irwin King, Prof. John Lui, Prof. Leo Jia, etc.

IMS Fellows
Prof. Ngai Hang Chan, Prof. Qiman Shao

AI 2000 Most Influential Scholar Annual List (2021)
Prof. Irwin King, Prof. Jiaya Jia, Prof. Yufei Tao, and some professors are named in the list, recognizing their research excellence in AI fields

Outstanding Fellow of the Faculty of Science
Prof. Isabella Wai Yin Poon
Prof. Hoi Ying Wong

Outstanding Fellow of the Faculty of Engineering
Prof. Yip Yuk Lap

UGC - Early Career Award 2019/20
Prof. Kin Wai Chan
Excellence in Research and Teaching

Journal of Time Series Analysis Distinguished Author Award
Prof. Ngai Hang Chan (2020)

The IMA Journal of Management Mathematics Best Paper of 2018
Prof. Hoi Ying Wong

W. J. Youden Award in Interlaboratory Testing in JSM 2019
Prof. Yingying Wei

Vice-Chancellor’s Exemplary Teaching Award
Prof. Hoi Ying Wong (2015, 2020)
Mr. Michael Fung, Senior Lecturer (2019)
Prof. Yuanyuan Lin (2016)
Prof. Irwin King (2016)
Prof. Jimmy Lee (2015)
Prof. Isabella Wai Yin Poon (2013)

CUHK University Education Award 2020
Prof. Irwin King

University Education Award 2017
Prof. Jimmy Lee
Recent Achievements in Intl’/local Competitions

International Collegiate Programming Contest (ICPC)
(formerly named as ACM Programming Competition)
• 2019: ranked 12th
• (over 3000 universities)
• 2012: ranked 8th
• 2011: ranked 13th
• 2001: ranked 8th

PwC’s HackaDay 2019
• 2nd place

International Quant Championship 2018
• National Winner
• competed in the Global Final in Singapore
Student Training

CUHK Amazon Deep Learning Workshop 2019 & AWSome Day - 2020
- Cooperated with Amazon to offer student training in deep neural networks and machine learning

City Challenge – Bridge to a Smarter City 2016
Designed technology-based living applications for the elderly and won the second runner-up
Student Internship

Internship
- Census and Statistics Department, HKSAR
- Centre for Clinical Research and Biostatistics
- New Media Group
- Beta Labs under
  - The Lane Crawford Joyce Group
- Hong Kong Monetary Authority
- Office of the Government Chief Information Officer
- HSBC
- The Bank of East Asia Limited
- IBM China/Hong Kong Limited
- Information Technology and Health Informatics Division, Hospital Authority
- Cisco Systems, Inc.
- Fujitsu Hong Kong Limited
- SenseTime Group Limited
- Solomon Systech Limited
- Madhead Limited
Industrial Visits

• Visit to companies / relevant Government Departments to learn latest market development
Strong Alumni Network

IT Industry
- Microsoft
- Google
- Apple
- IBM
- NOKIA
- amazon.com

Education/Government
- citibank
- Bloomberg

Banking
- HSBC
- BNP PARIBAS
- Morgan Stanley
- J.P. Morgan
- Deutsche Bank
- Deloitte
- AIA
- Goldman Sachs
- KPMG
What’s More?

• Chances to **create your own project and innovation** with support and advice from CSE and STA professors

• **Exchange opportunities** to world-class universities

• **High competitiveness** in job market with **90%** of CSE and STA graduates employed within one month of graduation

• CSE and STA teachers usually have the **highest teaching evaluation scores**
Admission Requirements for JUPAS Applicants
Admission Requirements (2022 Entry) of CDAS
Planned number of students Intake: 20

<table>
<thead>
<tr>
<th>HKDSE Subject</th>
<th>Minimum Level</th>
<th>Subject Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HKDSE Core Subjects</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>English Language</td>
<td>4</td>
<td>1.5</td>
</tr>
<tr>
<td>Chinese Language</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Mathematics (Compulsory Part)</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Liberal Studies</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td><strong>HKDSE Elective Subjects</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any two subjects</td>
<td>3</td>
<td>#</td>
</tr>
</tbody>
</table>

# The CDAS programme accepts any subject as elective,
# The programme accepts any subject as elective. The preferred subjects (with a subject weighting of "2") include Mathematics Extended Module 1 or 2, Physics, Chemistry, Economics, Information and Communication Technology, Biology, Combined Science; "1" is given to any other subjects.

Selection is based on the Best 5 HKDSE subjects with subject weighting applied.
## Admission Requirements for JUPAS applicants

### Grade Point Conversion

<table>
<thead>
<tr>
<th>Level</th>
<th>5**</th>
<th>5*</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Score</td>
<td>8.5</td>
<td>7</td>
<td>5.5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

### Example: Weighted Best 5 Score

<table>
<thead>
<tr>
<th>HKDSE</th>
<th>CHI</th>
<th>ENG</th>
<th>MATH</th>
<th>LS</th>
<th>M1/M2</th>
<th>Best Elective</th>
<th>2nd Elective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Candidate’s grade</td>
<td>4</td>
<td>5</td>
<td>5**</td>
<td>4</td>
<td>5*</td>
<td>5**</td>
<td>5*</td>
</tr>
<tr>
<td>Weighting</td>
<td>1</td>
<td>1.5</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Weighted Score</td>
<td>4</td>
<td>8.25</td>
<td>17</td>
<td>4</td>
<td>14</td>
<td>17</td>
<td>7</td>
</tr>
<tr>
<td>Programme Best 5 Score:</td>
<td>5.5x1.5 + 8.5x2 + 7x2 + 8.5x2 + 7x1</td>
<td>1.5+2+2+2+1</td>
<td>= 7.44 (Admission Score)</td>
<td>(Maximum possible total weighting)</td>
<td></td>
<td></td>
<td></td>
</tr>
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</table>
## Admission Grades of our other elite programmes (2021 Entry)

### Artificial Intelligence: Systems and Technologies (AIST)

<table>
<thead>
<tr>
<th>JUPAS Catalogue No.</th>
<th>Program</th>
<th>Target Percentile</th>
<th>CHI</th>
<th>ENG</th>
<th>MATH</th>
<th>LS</th>
<th>M1/ M2</th>
<th>Best Elective</th>
<th>2nd Best Elective</th>
<th>3rd Best Elective</th>
<th>Total Ref. Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>JS4468</td>
<td>AIST</td>
<td>UQ</td>
<td>4</td>
<td>5**</td>
<td>5**</td>
<td>4</td>
<td>5*</td>
<td>5*</td>
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<td>5*</td>
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<tr>
<td></td>
<td></td>
<td>M</td>
<td>3</td>
<td>5</td>
<td>5**</td>
<td>3</td>
<td>5**</td>
<td>5*</td>
<td>5*</td>
<td>5*</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LQ</td>
<td>3</td>
<td>5</td>
<td>5**</td>
<td>4</td>
<td>5</td>
<td>5*</td>
<td>5*</td>
<td>5*</td>
<td>29</td>
</tr>
</tbody>
</table>

### Quantitative Finance and Risk Management Science (QFRM)

<table>
<thead>
<tr>
<th>JUPAS Catalogue No.</th>
<th>Program</th>
<th>Target Percentile</th>
<th>CHI</th>
<th>ENG</th>
<th>MATH</th>
<th>LS</th>
<th>M1/ M2</th>
<th>Best Elective</th>
<th>2nd Best Elective</th>
<th>3rd Best Elective</th>
<th>Total Ref. Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>JS4276</td>
<td>QFRM</td>
<td>UQ</td>
<td>5</td>
<td>5</td>
<td>5**</td>
<td>4</td>
<td>5**</td>
<td>5**</td>
<td>5**</td>
<td>5*</td>
<td>34</td>
</tr>
<tr>
<td></td>
<td></td>
<td>M</td>
<td>4</td>
<td>4</td>
<td>5**</td>
<td>4</td>
<td>5*</td>
<td>5**</td>
<td>5**</td>
<td>5**</td>
<td>34</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LQ</td>
<td>3</td>
<td>4</td>
<td>5**</td>
<td>4</td>
<td>5**</td>
<td>5**</td>
<td>5**</td>
<td>5*</td>
<td>33</td>
</tr>
</tbody>
</table>

Source: Office of Admissions and Financial Aid, CUHK
Admission Requirements for Non-JUPAS Applicants
Admission Requirements (for Non-JUPAS & International Applicants)

• Applicants seeking admission on the strength of qualifications other than HKDSE examination results (e.g., IB, GCE-AL, overseas qualifications) can apply through Non-JUPAS channels

• Will be considered on the basis of their education background and academic achievements

• Will be expected to demonstrate outstanding abilities in English, mathematics and science subjects

Check more details at OAFA’s website!

Non-JUPAS Applications: [http://admission.cuhk.edu.hk/non-jupas-yr-1/requirements.html](http://admission.cuhk.edu.hk/non-jupas-yr-1/requirements.html)
International Applications: [http://admission.cuhk.edu.hk/international/requirements.html](http://admission.cuhk.edu.hk/international/requirements.html)
Curriculum Structure
CDAS Curriculum – Major Requirements

Year 4
- Final Year Project
- Major Electives

Year 3
- Major Core
- Major Electives

Year 2
- Major Foundation
- Major Core

Year 1
- Faculty Package
- Major Foundation

Total Units: 75
CDAS Curriculum – Faculty Package and Foundation

**Faculty Package** (9 units):
- Advanced Calculus
- Linear Algebra
- Programming
  - Programming (ENGG1110 / ESTR1002)
  - Linear Algebra (ENGG1120 / ESTR1005 / MATH1030)
  - Calculus for Engineers (MATH1510) or University Mathematics (MATH1010)
CDAS Curriculum – Major Foundation

<table>
<thead>
<tr>
<th>Year</th>
<th>Final Year Project</th>
<th>Major Electives</th>
<th>Major Electives</th>
<th>Major Core</th>
<th>Major Core</th>
<th>Major Foundation</th>
<th>Major Foundation</th>
<th>Faculty Package</th>
<th>Major Foundation</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Python</td>
<td>R, SAS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>C++</td>
<td>Statistics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Mathematics</td>
<td>Data Structure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Intro to Computing Using C++ (CSCI1120 / ESTR1100)
- Data Structures (CSCI2100 / ESTR2102)
- Discrete Mathematics (ENGG2440 / ESTR2004)
- Programming Languages for Statistics (R and SAS) (STAT2005)
CDAS Curriculum – Major Core

Year 4
- Final Year Project
- Major Electives

Year 3
- Major Core
- Major Electives

Year 2
- Major Foundation
- Major Core

Year 1
- Faculty Package
- Major Foundation

Major Core (27 units)
- Parallel Computing
- Artificial Intelligence
- Machine Learning
- Statistical Learning
- Data Mining

» Algorithms and computer systems
» Machine learning
» Operating systems
» Sampling
» Statistical Inference
» Statistical Modeling
CDAS Curriculum – Major Electives

Major Electives (15 units)

Streams
1. Computational Data Science (General stream) ★
2. Computational Physics ★
3. Computational Medicine ★
4. Computational Social Science ★

Major Core

Year
4
Final Year Project

Major Electives

3
Major Core

Major Electives

2
Major Foundation

Major Core

1
Faculty Package

Major Core
**Final Year Project (FYP)**

**Year 4**
- Final Year Project
- Major Electives

**Year 3**
- Major Core
- Major Electives

**Year 2**
- Major Foundation
- Major Core

**Year 1**
- Faculty Package
- Major Foundation

---

**Final Year Project (6 units)**

- Pick an interesting topic
- Interdisciplinary nature
- Apply the knowledge learnt in the previous courses
- Many open topics. Your creativity and discussion with the supervisor
- Complete a project under the supervision of an advisor

**Open topic FYP** – you may also propose a project to a professor
## Curriculum Comparison Between AIST, CDAS and QFRM

Table 1(a): Typical course structures in the general streams

<table>
<thead>
<tr>
<th>Faculty of Engineering</th>
<th>Faculty of Science</th>
<th>Faculty of Business Administration</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AIST</td>
<td>ENGG</td>
</tr>
<tr>
<td>AIST Faculty Required</td>
<td>18</td>
<td>7</td>
</tr>
<tr>
<td>AIST Faculty Elective</td>
<td>v</td>
<td>v</td>
</tr>
<tr>
<td>CDAS Faculty Required</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>CDAS Faculty Elective</td>
<td>v</td>
<td>v</td>
</tr>
<tr>
<td>QFRM Faculty Required</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>QFRM Faculty Elective</td>
<td>v</td>
<td>v</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mainly about</th>
<th>Computer science &amp; programming</th>
<th>Statistics &amp; mathematics</th>
<th>Finance &amp; business</th>
</tr>
</thead>
</table>

AIST: Artificial Intelligence: Systems and Technologies  
CDAS: Computational Data Science  
QFRM: Quantitative Finance and Risk Management Science
Curriculum Comparison Between AIST, CDAS and QFRM

Table 1(b): Course summary

<table>
<thead>
<tr>
<th></th>
<th>ENGG</th>
<th>SCI</th>
<th>BA</th>
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</thead>
<tbody>
<tr>
<td>AIST</td>
<td>46</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Mainly</td>
<td>Some</td>
<td></td>
</tr>
<tr>
<td>CDAS</td>
<td>6</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Mainly</td>
<td>Mainly</td>
<td></td>
</tr>
<tr>
<td>QFRM</td>
<td>6</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Some</td>
<td>Mainly</td>
<td>Mainly</td>
</tr>
</tbody>
</table>

Table 2: Administrative department(s) and degree

<table>
<thead>
<tr>
<th>Administrative department(s)</th>
<th>Department of Computer Science and Engineering</th>
<th>Department of Statistics</th>
<th>Department of Finance</th>
<th>Degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIST</td>
<td>V</td>
<td></td>
<td></td>
<td>Bachelor of Engineering</td>
</tr>
<tr>
<td>CDAS</td>
<td>V</td>
<td>V</td>
<td></td>
<td>Bachelor of Science</td>
</tr>
<tr>
<td>QFRM</td>
<td>V</td>
<td>V</td>
<td>V</td>
<td>Bachelor of Science</td>
</tr>
</tbody>
</table>

AIST: Artificial Intelligence: Systems and Technologies
CDAS: Computational Data Science
QFRM: Quantitative Finance and Risk Management Science
# Curriculum Comparison Between AIST, CDAS and QFRM

<table>
<thead>
<tr>
<th>Faculty Package</th>
<th>AIST</th>
<th>CDAS</th>
<th>QFRM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Programming</td>
<td>Programming</td>
<td>Programming</td>
<td>Mathematics</td>
</tr>
<tr>
<td>Linear Algebra</td>
<td>Linear Algebra</td>
<td>Advanced Calculus</td>
<td>Economics for Business Studies</td>
</tr>
<tr>
<td>Multivariable Calculus</td>
<td>Advanced Calculus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discrete Mathematics</td>
<td>Discrete Mathematics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advanced Calculus</td>
<td>Data Structure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Probability</td>
<td>Probability</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Statistics</td>
<td>Statistics</td>
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<tr>
<td>Physics</td>
<td>R, SAS</td>
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</tr>
<tr>
<td></td>
<td>C++</td>
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<td></td>
</tr>
</tbody>
</table>

**AIST:** Artificial Intelligence: Systems and Technologies  
**CDAS:** Computational Data Science  
**QFRM:** Quantitative Finance and Risk Management Science
# Curriculum Comparison Between AIST, CDAS and QFRM

<table>
<thead>
<tr>
<th>Required courses</th>
<th>AIST</th>
<th>CDAS</th>
<th>QFRM</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Artificial Intelligence</td>
<td>Operating Systems</td>
<td>Financial Markets</td>
</tr>
<tr>
<td></td>
<td>Machine Learning</td>
<td>Machine Learning / /Data Mining / Statistical Learning</td>
<td>Risk Management and Insurance</td>
</tr>
<tr>
<td></td>
<td>Data Structure</td>
<td>Survey Methods / Statistical Computing / Bayesian Learning</td>
<td>Risk Management Science and Finance</td>
</tr>
<tr>
<td></td>
<td>Numerical Optimization</td>
<td>Statistical Inference / Applied Regression Analysis</td>
<td>Statistical Modelling in Financial Markets</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**AIST:** Artificial Intelligence: Systems and Technologies  
**CDAS:** Computational Data Science  
**QFRM:** Quantitative Finance and Risk Management Science
## Curriculum Comparison Between AIST, CDAS and QFRM

<table>
<thead>
<tr>
<th>Research</th>
<th>Practicum</th>
<th>AIST</th>
<th>CDAS</th>
<th>QFRM</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Final Year Project</td>
<td>Final Year Project</td>
<td>Capstone / Research / Practicum</td>
</tr>
<tr>
<td>Stream</td>
<td>Stream</td>
<td>General Artificial Intelligence: Systems and Technologies</td>
<td>Computational Data Science</td>
<td>Business: Courses from Accountancy, Finance, Management, Marketing</td>
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<tr>
<td>Elective courses</td>
<td></td>
<td>Biomedical Intelligence</td>
<td>Computational Physics</td>
<td>Quantitative Finance: Courses from Finance</td>
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<td></td>
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<td>Intelligent Multimedia Processing</td>
<td>Computational Medicine</td>
<td>Risk Management Science: Courses from Risk Management Science, Computer Science, Economics, Mathematics, Statistics</td>
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<td>Large-scale Artificial Intelligence - Theory and Systems</td>
<td>Computational Social Science</td>
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<td></td>
<td></td>
<td>Intelligent Manufacturing and Robotics</td>
<td>*Engineering Leadership, Innovation, Technology and Entrepreneurship (ELITE) Stream (Faculty of Engineering)</td>
<td></td>
</tr>
</tbody>
</table>

**AIST: Artificial Intelligence: Systems and Technologies**  
**CDAS: Computational Data Science**  
**QFRM: Quantitative Finance and Risk Management Science**
FAQs
FAQ Contents:
Q: Will there be any interview?
Q: Will there be any exchange opportunity?
Q: Will there be any scholarship or financial aid?
Q: How can I declare the specialized stream?
Q: What are the differences between CDAS, AIST and QFRM?
Q: I am still struggling to choose AIST / CSCI / CENG / RMSC / QFRM. What can I do?
Q: Will there be any interview?
Interview Arrangement (JUPAS)

• We plan to arrange interviews in **mid-/late June, 2022**.

• We only consider **Band A applications** for shortlisting.

• Shortlisted applicants will receive an invitation email for the details, *e.g.*, *date, time, format, etc.*

• Stay tuned! **Check your email** regularly for the latest update!
Interview Arrangement (Non-JUPAS)

• Interviews will be conducted in batches from ~Jan. 2022.

• You are encouraged to attach adequate supporting documents, e.g., transcripts, predicted grade, certificates, etc., in your application for our holistic review.

• Shortlisted applicants will receive an invitation email for the details, e.g., date, time, format, etc.

• Stay tuned! Check your email regularly for the latest update!
Q: Will there be any exchange opportunity?
Exchange to Overseas Universities

• You are encouraged to join the exchange programme to broaden your horizon and learn with peers from diverse background

• List of some overseas universities for the exchange
  » Macquarie University, Australia
  » University of Toronto, Canada
  » Shanghai Jiao Tong University, China
  » Telecom & Management SudParis, France
  » Royal Institute of Technology (KTH), Sweden
  » University of California, Davis, USA
  ...

Submit your application via Office of Academic Links (OAL)!
Q: Will there be any scholarship or financial aid?
Scholarships and Financial Aids

• The Government and the University offer various **scholarships** and **financial aids** depending on student’s financial situation, or their outstanding performance in academic or other areas

• List of some scholarships and financial aids
  » Admission Scholarships
  » Scholarships for Overseas Studies
  » Government or University Financial Aid
  » Summer Subsistence and Travel Loan Scheme
  » Student Residence Bursary Scheme
  ...

Check out more details via [Office of Admissions and Financial Aid (OAFA)](http://oafa.example.com)!
Q: How can I declare the specialized stream?
Stream Declaration

• You should check and complete the required courses of the respective stream.

• You will be invited for the stream declaration in the final year of study.

• You can declare in at most one stream

Major Electives (15 units)

Streams

1. Computational Data Science (General stream)
2. Computational Physics
3. Computational Medicine
4. Computational Social Science
Q: What are the differences between CDAS, AIST and QFRM?
<table>
<thead>
<tr>
<th>CDAS vs AIST vs QFRM?</th>
<th>AIST</th>
<th>CDAS</th>
<th>QFRM</th>
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</thead>
<tbody>
<tr>
<td><strong>Administred by</strong></td>
<td></td>
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<tr>
<td>Department of Computer Science and Engineering</td>
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<td>V</td>
<td>V</td>
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<tr>
<td>Department of Statistics</td>
<td>V</td>
<td>V</td>
<td>V</td>
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<tr>
<td>Department of Finance</td>
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<tr>
<td><strong>Major Knowledge</strong></td>
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<tr>
<td>AI &amp; Machine Learning</td>
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<td>High-performance computing</td>
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<tr>
<td>Statistical Modelling</td>
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<td>V</td>
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<td>Data Analytics</td>
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<td>Risk Management</td>
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<tr>
<td>Quantitative Finance</td>
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<td>V</td>
<td>V</td>
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<tr>
<td>Business</td>
<td>V</td>
<td>V</td>
<td>V</td>
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<tr>
<td><strong>Courses offered by</strong></td>
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<tr>
<td>Faculty of Engineering</td>
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<td>V</td>
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<tr>
<td>Faculty of Science</td>
<td>V</td>
<td>V</td>
<td>V</td>
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<tr>
<td>Faculty of Business Administration</td>
<td>V</td>
<td>V</td>
<td>V</td>
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<tr>
<td>Degree</td>
<td>B.Eng.</td>
<td>B.Sc.</td>
<td>B.Sc.</td>
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</tbody>
</table>
Q: I am still struggling to choose AIST / CSCI / CENG / RMSC / QFRM. What can I do?
If you are still struggling to choose...

• You can **go through our websites and admission materials** for a better understanding before submission, and **write to us via email** to statdept@cuhk.edu.hk or ug-admiss@cse.cuhk.edu.hk whenever you have any queries.

• You can **join our outreach activities** in the future and chat with our teachers.

• You can also **subscribe our social media channels** to receive the latest updates from us! Stay tuned!
Contact Us

(852) 3943 7931
(852) 3943 4269
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ug-admiss@cse.cuhk.edu.hk
www.sta.cuhk.edu.hk/CDAS
www.cse.cuhk.edu.hk/admission/cdasn/
See you in Fall 2022!