BASc(FinTech) Programme

Introduction of the programme, its structure, and enrollment details
Introduction to BASc(FinTech) Programme

- Financial Technology
  - is about application of information & communication technologies to the provision of financial services, which changes the nature of commerce and end-user expectations for financial services.
  - has a profound impact on the development of the global and local financial industries.
  - is an area with high demand of talents to support the fast-growing FinTech industry.
Introduction to BASc(FinTech) Programme

• BASc(FinTech) programme
  • is jointly offered by the Department of Computer Science, the Faculty of Engineering and the Faculty of Business and Economics
  • its objective is to nurture financial technologists and entrepreneurs with essential knowledge in both finance and technology
  • is an inter-disciplinary study which covers computing, finance, and legal regulations
    • requires the integration of computing technologies and financial knowledge to solve real-world problems related to financial services with the understanding on relevant legal regulations and policies
  • include soft topics from other disciplines for broadening the students' knowledge and views and prepare the students to face the fast-growing FinTech industry
Programme Learning Outcomes

Upon successful completion of the curriculum, students should be able to:

<table>
<thead>
<tr>
<th>PLO</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>PLO a</strong></td>
<td>apply knowledge of computing technologies to finance applications appropriate to the programme outcomes and to the discipline</td>
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<tr>
<td><strong>PLO b</strong></td>
<td>apply knowledge of computing technologies to the abstraction and conceptualization of financial applications</td>
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<tr>
<td><strong>PLO c</strong></td>
<td>analyze financial problems, and identify and define the computing technologies appropriate to its solution</td>
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<tr>
<td><strong>PLO d</strong></td>
<td>design, implement, and evaluate a computer-based system, process, component, or programme to solve financial applications with appropriate consideration for public health and safety, social and environmental considerations</td>
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<tr>
<td><strong>PLO e</strong></td>
<td>function effectively on teams to accomplish a common goal</td>
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<tr>
<td><strong>PLO f</strong></td>
<td>demonstrate an understanding of professional, ethical, legal, security and social issues and responsibilities</td>
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<tr>
<td><strong>PLO g</strong></td>
<td>communicate effectively with a range of audiences</td>
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<tr>
<td><strong>PLO h</strong></td>
<td>analyze the local and global impact of financial technology on individuals, organizations, and society</td>
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<tr>
<td><strong>PLO i</strong></td>
<td>recognize the need for and an ability to engage in continuing professional development</td>
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<tr>
<td><strong>PLO j</strong></td>
<td>use current techniques, skills, and tools necessary for computing practice to solve financial problems with an understanding of the limitations</td>
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Alongside the content knowledge students gain from their studies, HKU aims to ensure that students graduate with a defined skill set:

- **Aim 1**: Pursuit of academic/professional excellence, critical intellectual inquiry and life-long learning
- **Aim 2**: Tackling novel situations and ill-defined problems
- **Aim 3**: Critical self-reflection, greater understanding of others, and upholding personal and professional ethics
- **Aim 4**: Intercultural communication, and global citizenship
- **Aim 5**: Communication and collaboration
- **Aim 6**: Leadership and advocacy for the improvement of the human condition
Relationship of BASc(FinTech) PLOs to HKU UEAs

<table>
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<tr>
<th>HKU Educational Aims</th>
<th>Programme Learning Outcomes</th>
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<tr>
<td>Pursuit of academic professional excellence, critical intellectual enquiry and life-long learning</td>
<td>PLO a  PLO b  PLO c  PLO d  PLO i  PLO j</td>
</tr>
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<td>Tackling novel situations and ill-defined problems</td>
<td>PLO c  PLO j</td>
</tr>
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<td>Critical self-reflection, greater understanding of others, and upholding personal and professional ethics</td>
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<td>Intercultural understanding and global citizenship</td>
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</tr>
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<td>Communication and collaboration</td>
<td>PLO e  PLO g</td>
</tr>
<tr>
<td>Leadership and advocacy for the improvement of the human condition</td>
<td>PLO d  PLO e  PLO h</td>
</tr>
</tbody>
</table>
Programme Structure

2\textsuperscript{nd} Major / Minor(s) / FinTech Electives / Free Electives

(90 credits)

FinTech Major (96 credits)

FinTech Cores
(54 credits)

FinTech Electives
(30 credits)

Capstone
(12 credits)

University Requirements
(36 credits or 42 credits*)

BASc Cores
(18 credits)

# Students without level 5 or above in HKDSE English Language (or equivalent) are required to take 6 additional credits in Core University English and complete 246 credits for graduation.
Programme Structure

• University Requirements
  • English in the Discipline (6 credits)
  • Chinese language (6 credits)
  • Common Core courses (24 credits)
  • Non-credit bearing course
  • Core University English (if required - 6 credits)

• BASc Core courses
  • Approaching Interdisciplinarity: Knowledge Beyond Disciplines (6 credits)
  • Data Science 101 (6 credits)
  • Sustainable Leadership (6 credits)

• FinTech Major
  • Core Courses (54 credits)
    • Computer programming I
    • Foundations of FinTech Programming
    • Linear algebra, probability and statistics
    • Introduction to financial technologies
    • Distributed ledger and blockchain
    • Introduction to financial accounting
    • Introductory microeconomics
    • Corporate finance
    • Regulation of financial markets
  
• FinTech Elective Courses (30 credits)
  • AI, Machine Learning, Security, NLP, Big Data, E-Payment, Investment, Derivatives, IT Law, Finance Regulation, etc.

• Capstone Project (12 credits)
Download Students' Handbook

- Download the Handbook for First Year Students 2024-25
  - (Prepared by the Faculty Office of Engineering)

University Requirements

• **Chinese course** - CENG9001 Practical Chinese for Engineering students
  - Local students - Take the course at **Year 3**
  - Putonghua-speaking students - should take CUND9002 or CUND9003 instead (recommend at **Year 1**)
  - International students - can apply for exemption for CENG9001
    - (i) either take a credit-bearing Cantonese or Putonghua language course for international students; OR
    - (ii) take an elective course in lieu
  - Please refer to page 9 of the 2024-25 Students' Handbook

• **Common Core courses** - total 4 courses
  - One course from each Area of Inquiry
    - (i) Science, Technology and Big Data (course code: CCSTxxxx)
    - (ii) Arts & Humanities (course code: CCHUxxxx)
    - (iii) Global Issues (course code CCGLxxxx)
    - (iv) China: Culture, State and Society (course code: CCCHxxxx)
University Requirements

• **English course** - CAES9542 Technical English for computer science
  • 1st semester at Year 4 *(together with the Capstone FYP course)*

• # **English course** – CAES1000 Core University English
  • This course is not in the syllabus of the FinTech programme.
  • Students with HKDSE English **level 5 or above** *(or equivalent)* are exempted from taking CAES1000.
    • For the list of equivalent qualifications, please refer to **page 6** of the Students' Handbook.
    • Please also take note of the notification on **page 7**.

• Students **without DSE level 5 or above** *(or equivalent)*, they **are required** to take CAES1000 as supplementary credits and complete **246 credits** for graduation.
  • You are required to take the course **at Year 1**
  • Please take note of the information on **page 7** for the enrollment arrangement.
University Requirements

• UG5E1001 Introduction to the Constitution, the Basic Law and the National Security Law
  • A non-credit bearing course
  • An online course that adopts a self-directed learning approach
  • Students can take this course in any semester throughout their period of study
  • Further details about the course, please visit the follow site:

  https://www.cedars.hku.hk/ge/ug5e1001.html
BASc Cores

• Total three courses
  • A requirement for all BASc students.

• **BASC9001** Approaching Interdisciplinarity: Knowledge Beyond Disciplines - **Year 1 first semester**

• **STAT1016** Data Science 101 - **Year 1 second semester**

• **DESN9002** Sustainable Leadership - Year 2 first semester
1st Year Enrolment

• 1st Semester
  • BASc core
    • BASC9001 Approaching Interdisciplinarity: Knowledge Beyond Disciplines
  • FinTech cores
    • ENGG1330 Computer programming I
    • FITE1010 Introduction to financial technologies
    • ECON1210 Introductory microeconomics
  • One common core course or
    Core university English (only for students who do not have DSE English level 5 or above or equivalent)

To satisfy the prerequisite requirement of MATH1853. For other qualifications, please refer to page 10 of the Students' Handbook.

• 2nd Semester
  • BASc core
    • STAT1016 Data Science 101
  • One common core course
  • FinTech cores
    • FITE2000 Foundations of fintech programming
    • ACCT1101 Introduction to financial accounting
  • A free elective course
    Or MATH1011 University Math I for students without DSE M1/M2 or equivalent
    Or Core university English (only for students who do not have DSE English level 5 or above or equivalent)

Normal loading: 5 courses in each semester

It's advisable to limit your course load to no more than 5 subjects during your first semester. University-level teaching and learning can be quite different from what you're used to in high school, so it's important to give yourself time to adjust and adapt.
Recommended Subclasses

• **1st Semester**
  
  • ENGG1330 Computer programming I
    
    • Lecture: Thu 10:30 - 12:20
    
    • Suitable Tutorial subclasses:
      
      • 1A - MON 09:30-11:20
      1D - MON 16:30-18:20
      1G - TUE 16:30-18:20
      1J - FRI 09:30-11:20
      1L - FRI 14:30-16:20
      1M - FRI 16:30-18:20
  
  • ECON1210 Introductory microeconomics
    
    
    • ECON1210D [Wed: 09:30 – 12:20]

• **2nd Semester**
  
  • ACCT1101 Introduction to financial accounting
    
    • ACCT1101Q [Thu: 13:30 – 16:20]
    

For ECON1210 & ACCT1101, FBE reserves 30 quota for each subclass; will release the unused quota by Sept 4.
Sample Study Plans

• BASc(FinTech) Academic Advising Page: https://www.cs.hku.hk/programmes/basc-fintech/academic-advising

• BASc(FinTech) [2023/24 & 2024/25]

• BASc(FinTech) with 2nd Major in Computer Science
• BASc(FinTech) with 2nd Major in Entrepreneurship Design and Innovation
• BASc(FinTech) with Minor in Computer Science

• The samples serve as illustrative purpose. Beware of the pre-requisite and time-tabling issues. Students who opt for a 2nd Major or Minor are responsible for planning for their own course of studies.
Majors / Minors

• Numerous choices: 
  https://aas.hku.hk/list-of-major/,
  https://aas.hku.hk/list-of-minor/

• May have admission prerequisite/study restriction

• Download and study the syllabus of the Major or Minor programme
  • Understand the syllabus
    • How many core courses? When are they being offered?
  • Observe the pre-requisite requirements and restrictions
  • Beware of the timetable issue

• Recommend consult the corresponding Temporary Advisor(s) of the offering department/faculty before making your course selection
FAQs Related to 2nd Major / Minors

• When should I start taking courses?
  • Taking a 2nd Major or double minors:
    • Better start taking courses in 1st year
  • For Minor, can start at 2nd year

• When do I have to register for the option?
  • If you opt for Major / Minor(s), you can declare it after completion of the first year study

• Can I change from a Major to a Minor?
  • In principle, yes
  • Most of the Introductory courses for the Major and Minor are similar or the same.
  • You can make changes to the declaration of Minor or Major during the Course enrollment and ADD/DROP period
Further Enquires

• BASc(FinTech) programme
  • Programme Director – Prof. Qi Liu
    (First Year Advisor)
    • Email: liuqi@cs.hku.hk
  • Academic Advisor – Dr. Anthony Tam
    (First Year Advisor)
    • Email: atctam@cs.hku.hk

• For enrollment issues and general enquiries, please Faculty Office
  • Office: Room G01A, G/F, Haking Wong Building
    Email: enggugtl@hku.hk
Information

• Regulations and Syllabus for the degree of BASc (FinTech)
  • [https://engg.hku.hk/Teaching-Learning/BEng-BASc/Academic-Programmes/Regulations-Syllabuses](https://engg.hku.hk/Teaching-Learning/BEng-BASc/Academic-Programmes/Regulations-Syllabuses)

• BASc (FinTech) Web site:

• First Year Experience Website
  • [https://firstyear.hku.hk/](https://firstyear.hku.hk/)