# Course Code FIN588
# Course Name
# Module 2, Academic Year 2022-2023

## Course Information

***Instructor: Yan Shen***
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Office Hour: Tuesday 4:00-6:00pm, Wednesday 10:00am-12:00pm

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***Classes:***
Lectures: Tue & Fri 13:30-15:20
Venue: PHBS Building, Room 229

***Course Website:***
N/A

## 1. Course Description

### *1.1 Context*

Course overview:
This course aims to equip students with essential techniques needed for positions like "Chief-Data-Officer" in financial institutions in this digital age. To achieve this goal this course contains two parts. Part I introduces major fields in digital finance, and part II concentrates on how to turn business problems in to data analytic problems, and the related toolbox. Training in research ability will be the focus. For each digital finance topic, major research questions and related literature will be introduced. The covered topics include the background for the development of digital finance, digital payment, peer-to-peer lending, bigtech lending, digital insurance, digital wealth management, digital currencies etc. For the big-data analytics part, supervised and unsupervised machine learning methods will be briefly covered.

Prerequisites:

N/A

### *1.2 Textbooks and Reading Materials*

Foster Provost and Tom Fawcett: "Data Science for Business: What You Need to Know About Data Mining and Data-Analytic Thinking", O'Reilly Media, 2013.

Reference Books:
David Dollar and Yiping Huang, "The Digital Revolution in China", May 2022, Brookings,.
Related manuscripts for the textbook "Digital Finance" will be provided.

## 2. Learning Outcomes

### *2.1 Intended Learning Outcomes*

| **Learning Goals** | **Objectives** | **Assessment (YES with details or NO)** |
|---|---|---|
| 1. Our graduates will be effective communicators. | 1.1. Our students will produce quality business and research-oriented documents. | YES, through homework |
| | 1.2. Students are able to professionally present their ideas and also logically explain and defend their argument. | YES, through presentations at tne end of the course |
| 2. Our graduates will be skilled in team work and leadership. | 2.1. Students will be able to lead and participate in group for projects, discussion, and presentation. | YES, through class participation |
| | 2.2. Students will be able to apply leadership theories and related skills. | No |
| 3. Our graduates will be trained in ethics. | 3.1. In a case setting, students will use appropriate techniques to analyze business problems and identify the ethical aspects, provide a solution and defend it. | YES, through studying empirical applications. |
| | 3.2. Our students will practice ethics in the duration of the program. | No |
| 4. Our graduates will have a global perspective. | 4.1. Students will have an international exposure. | YES, through lecturing |
| 5. Our graduates will be skilled in problem-solving and critical thinking. | 5.1. Our students will have a good understanding of fundamental theories in their fields. | Yes, through lecturing, homework and presentations |
| | 5.2. Our students will be prepared to face problems in various business settings and find solutions. | No. |
| | 5.3. Our students will demonstrate competency in critical thinking. | Yes, through lecturing, homework and presentations |

### *2.2 Course specific objectives*

After taking this course, students shall master main business models, challenges in digital finance, and know appropriate big data analytical tools for a certain business model in digital finance.

### *2.3 Assessment/Grading Details*

There will be a research proposal, a presentation and a final exam. The final exam will be closed-book and closed-notes.
The grading formula for the course is class participation (10%), research proposal (10%), a presentation (10%) and final exam(70%).

### *2.4 Academic Honesty and Plagiarism*

It is important for a student's effort and credit to be recognized through class assessment. Credits earned for a student work due to efforts done by others are clearly unfair. Deliberate

dishonesty is considered academic misconducts, which include plagiarism; cheating on assignments or examinations; engaging in unauthorized collaboration on academic work; taking, acquiring, or using test materials without faculty permission; submitting false or incomplete records of academic achievement; acting alone or in cooperation with another to falsify records or to obtain dishonestly grades, honors, awards, or professional endorsement; or altering, forging, or misusing a University academic record; or fabricating or falsifying of data, research procedures, or data analysis.

All assessments are subject to academic misconduct check. Misconduct check may include reproducing the assessment, providing a copy to another member of faculty, and/or communicate a copy of this assignment to the PHBS Discipline Committee. A suspected plagiarized document/assignment submitted to a plagiarism checking service may be kept in its database for future reference purpose.

Where violation is suspected, penalties will be implemented. The penalties for academic misconduct may include: deduction of honour points, a mark of zero on the assessment, a fail grade for the whole course, and reference of the matter to the Peking University Registrar.

For more information of plagiarism, please refer to *PHBS Student Handbook*.

## 3. Topics, Teaching and Assessment Schedule

| Class | Date | Topic |
|---|---|---|
| 1 | 11/01 | Introduction to the course |
| 2 | 11/04 | Digital Payment |
| 3 | 11/08 | Peer-to-Peer Lending |
| 4 | 11/11 | BigTech Lending |
| 5 | 11/15 | Digital Transformation of Commercial Banks |
| 6 | 11/18 | Digital Supply Chain |
| 7 | 11/22 | Digital Insurance |
| 8 | 11/25 | Digital Wealth Management |
| 9 | 11/29 | Digital Currency: The Crypto Currency |
| 10 | 12/02 | The Data Analytic Thinking: From Digital Finance Problems to Data Problems |
| 11 | 12/06 | Predictive Modeling: classification I |
| 12 | 12/09 | Predictive Modeling: classification II |
| 13 | 12/13 | Predictive Modeling: The similarity |
| 14 | 12/16 | The devil in the detail: Overfitting |
| 15 | 12/20 | Visualization of model performances |
| 16 | 12/23 | Data management and data governance |
| 17 | 12/27 | Presentation I |
| 18 | 12/30 | Presentation II |

**Research proposal is due on December 1, 2022.**
**The final exam is scheduled on January 4, 2023.**

## 4. Miscellaneous