Office of the Provost
Anne D'Alleva, Ph.D.
Provost and Executive Vice President
for Academic Affairs

February 22, 2023

TO: Members of the Board of Trustees

FROM: Anne D'Alleva, Ph.D.
                 Provost and Executive Vice President for Academic Affairs

RE: Bachelor of Science in Financial Technology

RECOMMENDATION:

That the Board of Trustees approve a new Bachelor of Science in Financial Technology in the School of Business.

BACKGROUND:

Financial technology (FinTech) uses technological innovation to compete with traditional financial methods in delivering financial services. Ongoing technology innovations are disrupting existing structures of the financial services industry. Technologies such as blockchain, cryptocurrency, peer-to-peer lending, mobile payment systems, robo-advising, and automated insurance underwriting redefine how financial services are offered and consumed. These new trends are also creating new demand for talent and changing the skills set companies seek, which is in short supply. Advanced skills in finance, mathematics, programming, analytics, data science, applied statistics, and regulatory and compliance are in high demand. The UConn FinTech program will develop and enhance these attributes to bridge the gap between finance and technology, uniquely preparing the students for the most well-paid and sought-after positions in the financial industry.

A UConn FinTech major is both timely and strategic. Our FinTech program will be the first of it's kind offered in Connecticut, and the second in New England. The program can reach several key industry stakeholders by utilizing UConn's existing geographic strengths. The School of Business already features a popular finance major, deep expertise in data analytics, a master's program in FinTech, and a location that facilitates the placement of many students at financial employers in Manhattan, Fairfield County, and Hartford. These provide a foundation for a strong undergraduate major in FinTech. Moreover, a FinTech undergraduate major has pathways to the M.S. in FinTech or M.S. in Business Analytics and Project Management, thereby creating synergies between the existing graduate programs. A survey of current School of Business was conducted to gauge interest in a FinTech program, resulting in 68% of students expressing interest in FinTech over their existing major, where it available when they came to UConn.

We ancicipate a cohort of approximately 20 students by Fall 2024. Graduates will be strong in the traditional functional areas of business (accounting, marketing, finance, and management). They will have a solid understanding of the integration of technology and its application in financial services and related industries. This major is currently only open to students at the Stamford Campus.

Bachelor of Science in Financial Technology

New Program Proposal, January 2023

Finance, Operations & Information Management, School of Business

CIP Code: 30.7104

Background

Financial technology uses technological innovation to compete with traditional financial methods in delivering financial services. The fintech industry has experienced rapid growth recently. For example, fintech companies raised more than $70 billion in 2021 and accounted for 5 of the 10 largest US VC-backed tech IPOs in 2021. Ongoing technology innovations are disrupting existing structures of the financial services industry. Technologies such as blockchain, cryptocurrency, peer-to-peer lending, mobile payment systems, robo-advising, and automated insurance underwriting redefine how financial services are offered and consumed. Many tech startups and heavyweight players have leveraged their technological advantages and started offering an array of financial products that financial firms traditionally offered. As a result, many financial firms are rethinking the way they need to do business.

These new trends are also creating new demand for talent and changing the skills set companies seek, which is in short supply (Experts warn that skills shortage could hamper fintech startups). Indeed, FinTech has brought an unprecedented demand for professionals with advanced skills in finance, mathematics, programming, analytics, data science, applied statistics, and regulatory and compliance. The UConn Fintech program will develop and enhance these attributes to bridge the gap between finance and technology, uniquely preparing the students for the most well-paid and sought-after positions in the financial industry.

A UConn Finance and Technology (FinTech) major is both timely and strategic. The program can reach several key industry stakeholders by utilizing UConn's existing geographic strengths. The School of Business already features a popular finance major, deep expertise in data analytics, a master's program in Fintech, and a location that facilitates the placement of many students at financial employers in Manhattan, Fairfield County, and Hartford. These provide a foundation for a strong undergraduate major in Fintech. Moreover, a fintech undergraduate major can have a pathway to the M.S. in Fintech and M.S. in Business Analytics and Project Management, thereby creating synergies between the existing graduate programs.

In addition to the job placement advantages of UConn's existing locations, there are local ecosystems that foster and develop fintech-type startups. Stamford has the advantage of

attracting many fintech companies and being proximal to several hedge funds and other large-scale financial services firms.

Our fintech major will be the first undergraduate degree offered in Connecticut and the second in New England. There is no similar program in Connecticut. Below is the list of similar undergraduate programs in universities across the United States.

New England Region
1. Northeastern University: Undergraduate Concentration in Fintech
   - Link: https://damore-mckim.northeastern.edu/programs/undergraduate-concentration-in-fintech/

New Jersey
1. New Jersey Institute of Technology: Bachelor of Science in Financial Technology
   - Link: https://www.njit.edu/academics/degree/bs-financial-technology
2. Seton Hall University: Bachelor of Science in Finance and Technology
   - Link: https://www.shu.edu/academics/bs-finance-and-technology.cfm

Virginia
1. Virginia Tech: FinTech and Big Data Analytics (FBTA)
   - Link: https://finance.pamplin.vt.edu/undergraduate/options/fintech.html
2. Virginia Commonwealth University: Bachelor of Science in Financial Technology
   - Link: https://business.vcu.edu/academics/finance-insurance-and-real-estate/bs-in-financial-technology/

Nebraska
1. Creighton University: FinTech Degree (Bachelor of Science in Business Administration)
   - Link: https://www.creighton.edu/academics/programs/finance-technology

Program Information

Program Description

The finance and technology (Fintech) major is designed for students interested in applying cutting-edge technology to improve financial services, develop new business models, and solve business problems. This new degree program not only provides students with the opportunity to complete the core coursework of a traditional finance major but also provides a set of rigorous coursework such as fintech foundations, big data financial analytics, blockchain applications, cryptocurrency essentials, ethics and sustainability in financial technologies, programming skills, and mobile app development. The primary goal of this degree program is to bridge the knowledge gap between finance and technology and prepare them with the necessary skills upon graduation for the most sought-after professional and academic careers.

Staffing

Faculty will be primarily derived from two departments in the School of Business;

Finance (https://www.business.uconn.edu/contact/finance/) and Operations and Information Management (https://www.business.uconn.edu/contact/opim/). However, as the program grows, both new teaching and research faculty will be needed.

The existing facilities, equipment, and library at the Stamford Campus should meet the short-term needs of the program. The campus administrators will evaluate future facilities, equipment, and special resources needs.

A new program academic director will be appointed. The School of Business in Stamford campus has student advising groups and career coaches.

Students

Market Trends

The program did a detailed market analysis using Lightcast Database (please see the Appendices). Lightcast report is derived from official government sources such as the U.S. Census Bureau, Bureau of Economic Analysis, and Bureau of Labor Statistics and captures more than 99% of all workers in the United States with data from online social profiles, resumés, and job postings.

Since Fintech is a new field of study, data on job postings were not readily available. However, we used two related fields as a proxy for Fintech since fintech students can qualify for jobs in these fields: 1) Financial and Investment Analysts; 2) Business and Financial Operations. For Financial and Investment Analysts, the data for 2020 showed, on average, 13,432 job openings per month in the USA, with an annual average wage of $91,582. The data also indicates that from 2020 to 2031, there is approximately a 3.2% yearly growth of new jobs in this field.

For Business and Financial Operations, the data for 2020 showed, on average, 219,722 job openings per month in the USA, with an average annual salary of $72,884. From 2020 to 2031, a job opportunity in this field is expected to grow by 9.5 % annually.

We note that more than 50% of the job openings require a Bachelor's degree and that the highest percentage is in the neighboring State of New York. The development of this program is not only timely but also strategic. The Fintech economy is in its infancy, and it's only scratching the surface of its potential. There is a need and demand locally and nationally for professionals with the skills proposed by this program. To be competitive, local and national businesses must make quick and precise decisions based on technology disruption. Therefore, this program can fill the need and demand for professionals with Fintech skills for a long time.

Enrollment Projections

- How many students do you anticipate that this program will recruit?
  - We do not anticipate we can recruit an entire class for Fall 2023. However, we believe there is a market with current UConn students, and the School of Business offers an internal admissions process to support students in their selection. Indeed,   68% of students (n = 353) surveyed expressed some degree of likelihood of selecting Financial Technology over their existing major if it were available to them when they came to UConn.
  - We project that if this major follows a similar pattern to Financial Management offered in Stamford Campus, whose first full year in recruitment, we achieved approximately 25 new students.   On average, Financial Management has had 23 first-year students entering the major since the Fall of 2018.
  - We are estimating that by Fall 2024, we can bring in a cohort of 20 students.

- What are the numbers of students you expect each year in the first years of the program? How long will it take to get to full capacity?
  - Financial Management has had an average of 35 students in the junior/senior years for the last two years.
  - We would expect a similar type of enrollment within 4 to 5 years.

- Do you have any numbers for students graduating from comparable programs elsewhere you can use to help indicate how many students you think you will recruit?
  - There are very few schools that have comparable programs. At this time, we don't have graduation numbers.

- How will student numbers compare with other programs in your unit?
  - We project that if this major follows a similar pattern to Financial Management offered in Stamford Campus, whose first full year in recruitment, we achieved approximately 25 new students.   On average, Financial Management has had 23 first-year students entering the major since the Fall of 2018.

- Will this program pull students from existing programs in your unit (or elsewhere at the University)? If so, how many students and what proportion of students in those programs do you expect will change to this new program?
  - We expect it to pull from Financial Management and Business Data Analytics and attract Business Undecided students.   Since this is a new program across the country, we are not sure what proportion of students will change to this program.

- Is retention and timely graduation strong in your current program? Do you think you will retain most students who matriculate to the program? How many students do you think will graduate from the program compared to those you will recruit and matriculate?

- The School already operates a team of advisors and programming staff in Stamford whose job is to ensure degree progress for students proactively.
- A timely graduate depends on the quality of students enrolled in the program. The School will be involved in the admission of these students to assess quantitative foundation as a factor for admission. Moreover, we are a selective program. Therefore, we expect some admitted students to be dismissed from the program based on academic performance.

- Do you expect to recruit a diverse student population (gender, race/ethnicity, international, income level, *etc.*)? Are there any steps you will be taking to recruit and retain a diverse student population for this new program? Are there any points you want to make about the importance of diverse students as a pipeline to this field?
  - We expect to recruit a diverse student population and provide a sustainable student service leading to success.   As mentioned above, many services (from advising to career support) are already in Stamford Campus. The availability of Housing services in Stamford Campus will also allow us an opportunity to recruit international students.

- Do you have a plan to evaluate how you are meeting these recruitment goals? Will there be impacts (*e.g.*, inability to hire new faculty or staff) if you do not meet these goals? If so, how will you know if there might be a problem in a timely manner so that you can address any issues?
  - We will need to partner with University admissions for external recruitment.
  - Since we are a dual admissions program, we will be able to do outreach to current students to enroll in the program.

Program Learning Objectives, Assessment, and Accreditation

Business today needs to leverage innovation at the intersection of Finance and Technology to create better financial products and services. This program will help students understand disruptions in the fintech industry across a broad cross-section of products and services, from traditional banking to secure mobile services and transactions. Students will learn how Fintech can help you reach untapped markets, reduce costs, create economies of scale, and improve customer experience.

The program will be evaluated routinely and regularly under the accrediting process of AACSB (Association to Advance Collegiate Schools of Business). Internally, the program will be evaluated in each of the following ways: i) course content, classroom instruction, administration and grading will be evaluated each semester by registered students using the standard process and questionnaire currently in place for School of Business courses, ii) course content, rigor, and overall implementation will be evaluated for each course by the department head and academic

director, both working in close conjunction with the instructor(s), and iii) alums and managers at hiring companies will be surveyed to monitor program quality and content.

Program Learning Outcomes

As a graduate, you will be prepared to:

- Demonstrate an advanced knowledge of key theoretical finance and economic concepts underpinning financial markets.

- Identify the interaction between technological innovation and financial service disruptions and the technologies appropriate to solve financial problems.

- Identify new fintech business models in blockchain technologies, cryptocurrency, alternative lending, open banking, insurtech, robo-advising, and cybersecurity.

- Use data analytics tools such as artificial intelligence and machine learning to perform financial big data analytics and to implement Fintech solutions.

- Use programming languages to build financial models and trading algorithms.

- Explain fintech trends such as cryptocurrency, blockchain, real-time settlements, peer-to-peer transactions, financial Inclusion, and mobile fintech applications.

- Explore contemporary issues in blockchain, crypto assets, algorithmic fairness, ethics, financial inclusion, regulation, and compliance procedures within the FinTech industry.

- Adhere to ethical and legal guidelines to ensure data security, cyber security, integrity, and confidentiality in the delivery of fintech applications.

- Analyze organizational structures and management processes to recommend improvements to organizational performance through financial technology solutions.

- Apply interpersonal, teambuilding, leadership, and communication skills when participating in diverse organizational environments.

Financial Technology (Fintech)

Course descriptions (Finance & OPIM)

The objective of this major is to train students in financial technology. Graduates will be strong in the traditional functional areas of business (accounting, marketing, finance, and management). They will have a solid understanding of the integration of technology and its application in financial services and related industries. This major is only open to students at the Stamford regional campus.

Bachelor of Science Requirements

Fintech majors are required to achieve a cumulative 2.0-grade point average for all Finance (FNCE) and Operations and Information Management (OPIM) courses for which they have been registered at the University of Connecticut, excluding grades and credits for independent studies and internships.

Residence Requirement

In addition to the School of Business residence requirements for all majors, a Fintech major must complete FNCE 3303, 3240, 4230, OPIM 3510, 3511, 3806; and two additional FinTech courses in residence at the University of Connecticut. Education Abroad courses may not be used to meet this requirement.

Required Major Courses

In addition to the courses outlined in the Common Body of Knowledge and Capstone Requirements, Fintech majors must take:

FNCE 3303, 3240, 4230, OPIM 3510, 3511, 3806; choose two additional 3-credit courses from FNCE 4306, 4308, 4319, 5721, OPIM 3505, 3512, 3702, 3402.

For students admitted to Accelerated M.S. Fintech

FNCE 5710 may be used in place of FNCE 3303, and/or FNCE 5711 may be used in place of FNCE 3240, but in either case, credit is not given for both to satisfy the major requirements.

For students admitted to Accelerated M.S. BAPM

OPIM [5604](#) may be used in place of OPIM [3511](#), and/or OPIM [5270](#) may be used in place of OPIM [3512](#), but in either case, credit is not given for both to satisfy the major requirements.

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