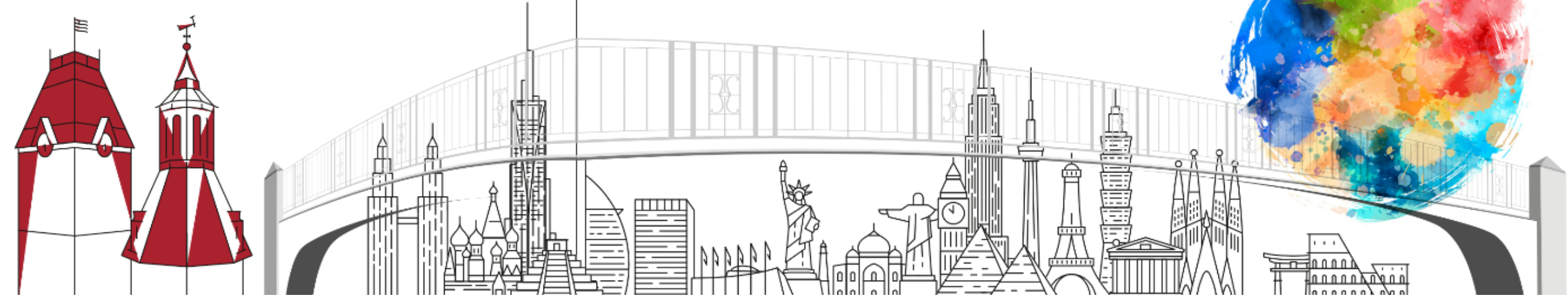




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THE BUSINESS  
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**Bridging business and technology to develop  
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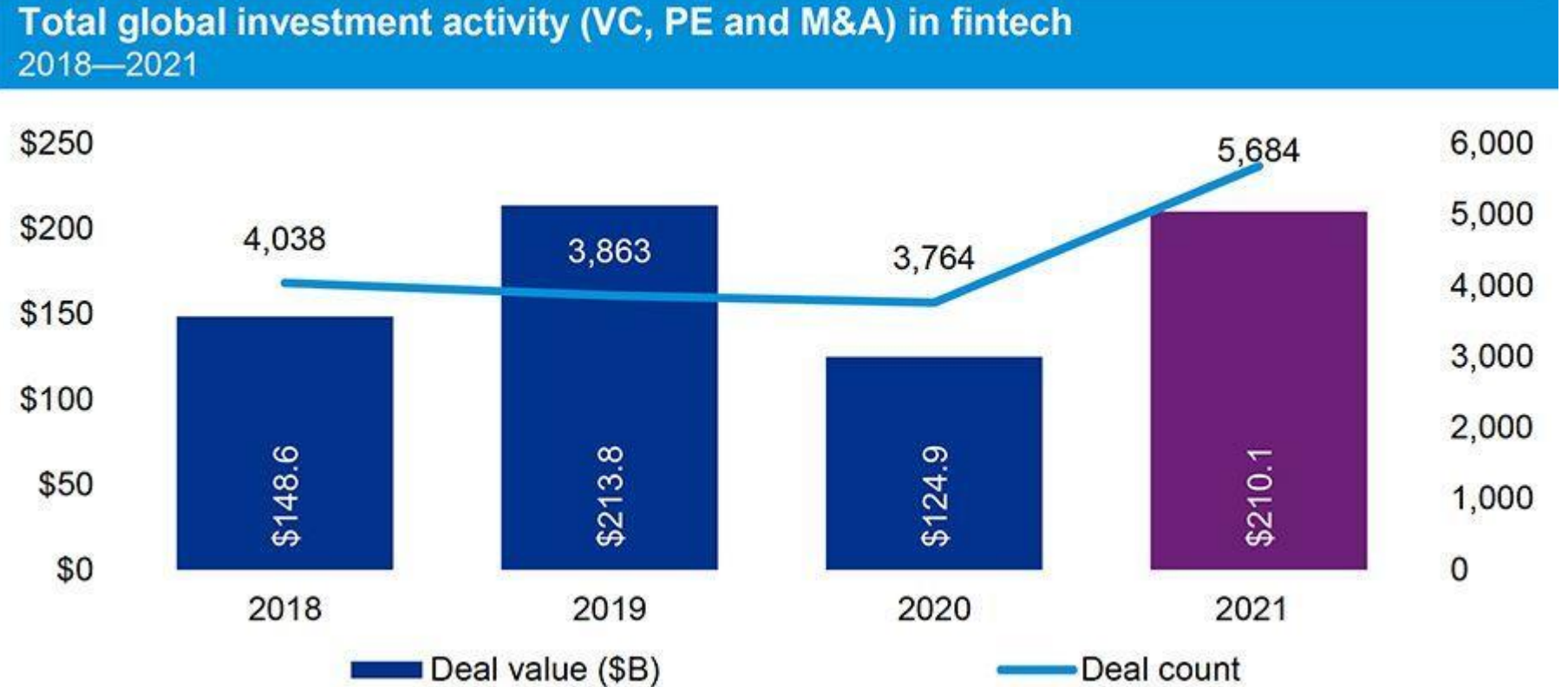
# PhD in Financial Technology (FinTech)

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**Motion:** On behalf of the Business School, the Committee on Graduate Studies and Research recommends, and I move that a Ph.D. program in Financial Technology be established (including one new course FIN 698 Directed Research), as described in the meeting materials.

# Why FinTech PhD?

FinTech is one of the **fastest growing** industries in the global economy. In 2021 investors pumped more than **\$200** billion into start-ups/scale-ups active in the world of financial technology, according to research by KPMG.



It has largest skills gap with 1.5 million positions created, and the highest paid salaries.

# Why FinTech PhD?

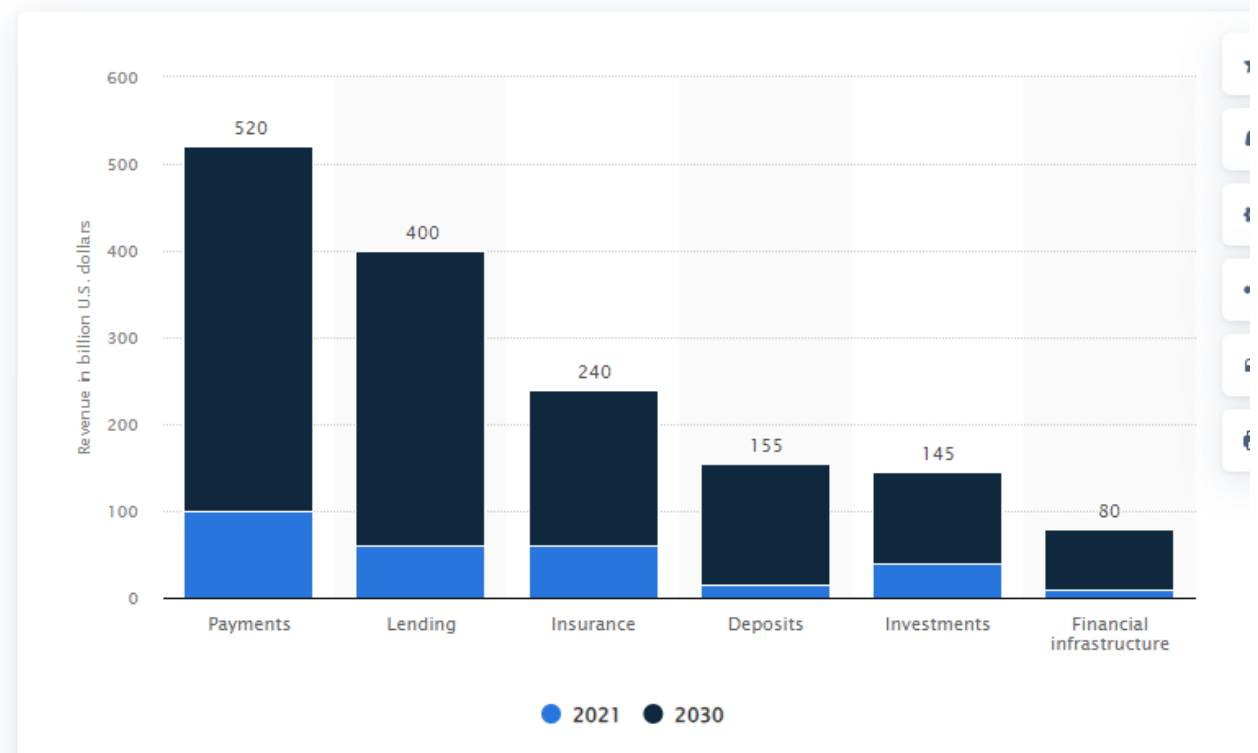
FinTech has brought an **unprecedented demand** for professionals with advanced skills in finance, mathematics, programming, analytics, data science, applied statistics, and regulatory and compliance.

Financial technology revenues are expected to grow 600% in the next seven years, **from \$245 billion to \$1.5 trillion**, according to a report released in May 2023 by Boston Consulting Group (BCG).

**Massachusetts is a major hub** in this industry, with more than **357** FinTech companies and 69 Incubators/Accelerators, this make the region the 3rd largest innovations center in the United States

Combined, the FinTech industry employs more than 30,000 people in the Commonwealth, with demand for skilled professionals growing rapidly.

Global fintech revenue growth forecast from 2021 to 2030  
*(in billion U.S. dollars)*



# Demand for PhD FinTech Offerings

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Boston Consulting Group predicts the financial technology sector, which currently holds 2% of the \$12.5 trillion financial services revenue globally, will grow up to 7% – and colleges and universities are taking note

There has been a dramatic increase in the number of colleges and universities now offering bachelor's and master's degrees within the last year.

Unprecedented growth in university Financial Technology programs, create need for Ph.D. graduates with the skills to teach in Financial Technology programs and do financial technology-related research.

There are also industry research opportunities, as firms in the financial industry seek to create innovative operations and products based on emerging financial technologies.

Both this growth in university offerings and the industry demand for researchers who deeply understand the technology and its potential uses in finance have produced a demand for the Ph.D. We are relatively early in this market in the U.S. (Europe is further ahead).

WPI's reputation in technology and its long history with the Wall St. project center (now called the Financial Technology project center), ideally positions us to be a leader in financial technology.

# Similar or Existing Programs

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No existing programs currently in the U.S.

## Related Ph.D. Programs

**These programs' curriculum do not include key fintech courses such as Machine Learning, Artificial Intelligence, Digital Assets and Blockchain**

1. University of Edinburgh Business School  
<https://www.business-school.ed.ac.uk/phd/financial-technology>
2. The Hong Kong University of Science and Technology  
<https://prog-crs.hkust.edu.hk/pgprog/2021-22/mphil-phd-fintech>
3. Stevens Institute of Technology – Ph.D. Financial Engineering  
<https://www.stevens.edu/phd-in-financial-engineering>
4. Boston University – Ph.D. Mathematical Finance  
<https://www.bu.edu/academics/questrom/programs/mathematical-finance/phd/>

# Program requirements – PhD FinTech

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**Candidates must complete 90 credits beyond the bachelor's degree, including at least 60 credits beyond the equivalent of WPI's MS in Financial Technology.**

For students proceeding from master's (related to WPI's MS in Financial Technology) to the Financial Technology Ph.D. degree, the 60 credits are distributed as follows:

## **Coursework:**

|  |            |
|--|------------|
| Courses in Research Methods (incl. Special Topics and ISP) | 12 credits |
| Dissertation Research (BUS 699)                            | 30 credits |
| Other:   | 18 credits |
| Additional Dissertation Research (BUS 699)                 |            |
| Directed Research (FIN 698)                                |            |
| Additional coursework                                      |            |

**TOTAL**

**60 credits**

# Curriculum – PhD FinTech

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## Research Methods Courses (All required)

1. BUS 631 Research Methods and the Research Process 3 credits
2. BUS 633 Quantitative Research Methods 3 credits
3. Research Method Elective (approved by the advisor) 3 credits
4. BUS 651 Seminar on Designing and Conducting Research Studies 3 credits



# Curriculum – PhD FinTech

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## FIN 698 Directed Research

1-3 credits

- FIN 698 encompasses a diverse range of areas including;
  - Asset pricing, where students can explore the dynamics of how assets are valued in financial markets;
  - Behavioral finance, offering insights into the psychological influences and behavioral biases that affect financial decision-making;
  - Price theory, focusing on how prices emerge in markets, influencing the allocation of resources and economic outcomes; Climate finance, a rapidly evolving field addressing the financial aspects of climate change mitigation and adaptation strategies.
- FIN 698 is administered by the Director of the Financial Technology program, with the support of faculty members who possess specialized expertise in their respective research fields.
- FN 698 is available for 1 to 3 credits, and students have the flexibility to enroll in FIN 698 multiple times, earning variable credits based on the extent of their research involvement.

# Other items in the motion

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- **Admission Requirements**

- Same as the PhD program at WBS

- **Faculty Contact**

- Kwamie Dunbar

- **Comparison to Existing Programs at WPI**

- There is no comparable program at WPI.

- **Implementation Date**

- 2024-2025

- **Resources Needed**

- No additional resources are needed

# PhD Financial Technology (FinTech)

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*What is FinTech: The use of technology solutions to make financial processes more effective in innovative ways.*

FinTech represents a disruption of Financial Services through the rapid integration of technology, algorithms, data, and mobile applications.