FINANCE + DATA SCIENCE, BS

for the degree of Bachelor of Science Major in Finance plus Data Science

This major is sponsored by the Finance Department in the Gies College of Business, in collaboration with the Departments of Statistics, Computer Science, iSchool, and Mathematics. The FIN + Data Science major is designed for students who desire to supplement their finance foundation with a strong background in data science. The major prepares students for professional or graduate work in all Finance fields, but particularly those focused on analytics.

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Graduation Requirements

Minimum hours required for graduation: 124 hours.

University Requirements

Minimum of 40 hours of upper-division coursework, generally at the 300- or 400- level. These hours can be drawn from all elements of the degree. Students should consult their academic advisor for additional guidance in fulfilling this requirement.

The university and residency requirements can be found in the Student Code (§3-801) and in the Academic Catalog (http://catalog.illinois.edu/general-information/degree-general-education-requirements/).

General Education Requirements

Follows the campus General Education (Gen Ed) requirements. Some Gen Ed requirements may be met by courses required and/or electives in the program.

Code	Title	Hours
Composition I		4-6
Advanced Composition		3
Humanities & the Arts (6 hours)		6
Natural Sciences & Technology (6 hours)		6
Social and Behavioral Sciences (6 hours)		6
fulfilled by ECON 102 and ECON 103		
Cultural Studies: Non-Western Cultures (1 course)		3
Cultural Studies: US Minority Cultures (1 course)		3
Cultural Studies: Western/Comparative Cultures (1 course)		3
Quantitative Reasoning (2 courses, at least one course must be Quantiative Reasoning 1)		6-10
fulfilled by STAT 107, STAT 207; and MATH 220 or MATH 221 or MATH 234		
Language Requirement (Completion of the third semester or equivalent of a language other than English is required)		0-15

Business Core Requirements

Code	Title	Hours
ACCY 201	Accounting and Accountancy I	3
ACCY 202	Accounting and Accountancy II	3
BADM 275	Introduction to Operations and Supply Chain Management	3
BADM 300	The Legal Environment of Bus	3
BADM 310	Mgmt and Organizational Beh (This course includes limited voluntary participation as a subject in experiments)	3
BADM 320	Principles of Marketing	3
BADM 449	Business Policy and Strategy	3
BUS 101	Professional Responsibility and Business	3
BUS 201	Business Dynamics	3
BUS 401	Crafting Your Purpose in Business	3
CMN 101	Public Speaking	3
ECON 102	Microeconomic Principles	3
ECON 103	Macroeconomic Principles	3
FIN 221	Corporate Finance	3
Minimum Total Hours		**42**

Finance Requirements

Code	Title	Hours
FIN 300	Financial Markets	3
FIN 321	Advanced Corporate Finance	3
FIN 411	Investment & Portfolio Mngt	3
Four additional full-semester, 3 hour 400 level-Finance courses except FIN 494 or FIN 495 (Senior Research). A maximum of 3 credit hours of FIN 490 (Special Topics) can count toward this requirement.		12
Total Hours		**21**

Data Science Core

Code	Title	Hours
Mathematical Foundations		
Choose one Calculus:		4-5
MATH 220	Calculus	
MATH 221	Calculus I	
MATH 234	Calculus for Business I	
Choose one Linear Algebra:		3
MATH 227	Linear Algebra for Data Science	
MATH 257	Linear Algebra with Computational Applications	
Data Science Fundamentals		**12**
STAT/CS/IS 107	Data Science Discovery	4
STAT 207	Data Science Exploration	4
CS 307	Modeling and Learning in Data Science	4
Computational Fundamentals		**4**
CS 277	Algorithms and Data Structures for Data Science	4
Social Impact in Data Science		**6**
IS 467	Ethics and Policy for Data Science	3

IS 477	Data Management, Curation & Reproducibility	3
Total Hours		**29**

Meaningful Research or Discovery Experience

Code	Title	Hours
One of the most important skills a student will gain in the FIN + DS degree will be the ability to present data in meaningful ways. A meaningful research and experience is as much a pillar of this degree program as both the core coursework and the area of specialization. This capstone experience can be fulfilled through BUS 301. This course is an active learning, real-client experience that will allow students to join their data science skills with their business skills.		
Total Hours		**3**

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Sample Sequence

This sample sequence is intended to be used only as a guide for degree completion. All students should work individually with their academic advisors to decide the actual course selection and sequence that works best for them based on their academic preparation and goals. Enrichment programming such as study abroad, minors, internships, and so on may impact the structure of this four-year plan. Course availability is not guaranteed during the semester indicated in the sample sequence.

Students must fulfill their Language Other Than English requirement by successfully completing a third level of a language other than English. For more information, see the corresponding section on the Degree and General Education Requirements page *(*http://catalog.illinois.edu/general-information/degree-general-education-requirements/*).*

First Semester

Requirements	Hours
BUS 101 - Professional Responsibility and Business	3
ECON 102 - Microeconomic Principles	3
Language Other Than English (3rd level)	4
Composition I or CMN 101	4
Semester Hours	**14**

Second Semester

Requirements	Hours
ECON 103 - Macroeconomic Principles	3
STAT 107 - Data Science Discovery	4
FIN 221 - Corporate Finance	3
MATH 234 - Calculus for Business I	4
CMN 101 - Public Speaking (or Composition I)	3
Semester Hours	**17**

First Semester

Requirements	Hours
FIN 300 - Financial Markets	3
ACCY 201 - Accounting and Accountancy I	3
STAT 207 - Data Science Exploration	4
MATH 227 - Linear Algebra for Data Science or MATH 257 - Linear Algebra with Computational Applications	3
BUS 201 - Business Dynamics	3
Semester Hours	**16**

Second Semester

Requirements	Hours
FIN 321 - Advanced Corporate Finance	3
ACCY 202 - Accounting and Accountancy II	3
CS 307 - Modeling and Learning in Data Science	4
IS 467 - Ethics and Policy for Data Science	3
General Education course (Select a course that satisfies Cultural Studies and Humanities & the Arts requirements)	3
Semester Hours	**16**

First Semester

Requirements	Hours
FIN 411 - Investment & Portfolio Mngt	3
BUS 301 - Business in Action	3
BADM 300 - The Legal Environment of Bus	3
General Education course	3
General Education course	3
Semester Hours	**15**

Second Semester

Requirements	Hours
FIN 4XX	3
CS 277 - Algorithms and Data Structures for Data Science	4
BADM 275 - Introduction to Operations and Supply Chain Management	3
BADM 310 - Mgmt and Organizational Beh	3
General Education course	3
Semester Hours	**16**

First Semester

Requirements	Hours
FIN 4XX	3
BUS 401 - Crafting Your Purpose in Business	3
BADM 320 - Principles of Marketing	3
IS 477 - Data Management, Curation & Reproducibility	3
General Education course (Select a course that satisfies Cultural Studies and Humanities & the Arts requirements)	3
Semester Hours	**15**

Second Semester

Requirements	Hours
FIN 4XX	3
FIN 4XX	3
BADM 449 - Business Policy and Strategy	3
General Education course	3
General Education course (Select a course that satisfies Cultural Studies and Humanities & the Arts requirements)	3
Semester Hours	**15**

Total Hours: 124

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Learning objectives and assessment for success in this program will be handled following our current process for all undergraduate Finance students. Success in the advanced classes requires success in prerequisites. We carefully monitor student progress through the initial years of the major in the advising process, giving mentoring where necessary.

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Finance department website (https://giesbusiness.illinois.edu/finance/)
(217) 244-2239
Gies College of Business website (https://giesbusiness.illinois.edu/)

Overview of College Admissions & Requirements: Gies Catalog (http://catalog.illinois.edu/schools/gies-business/academic-units/)