

BACHELOR OF SCIENCE IN APPLIED ANALYTICS

Applied Analytics

The Bachelor of Science in Applied Analytics combines training in using quantitative research methods and communicating their results. Students pursuing a Bachelor of Science in Applied Analytics will develop an understanding of:

- How to collect, curate, and analyze data
- How to communicate the implications of data to various audiences and applications
- How to apply the aforementioned skills with respect to the social sciences, psychology, or business

Students majoring in applied analytics must complete core courses in statistics and theory, computer science, and communication. Through free electives and proper advising, students will be able to tailor their focus around topics including but not limited to advanced statistics, data mining, information management systems, geographic information systems, online social networks, and psychological testing. The required capstone project will be based on these core courses and electives, highlighting students' skills as well as their personal interests.

Successful completion of the applied analytics degree ensures students will be able to manage and analyze data using an array of statistical approaches. They will be well prepared for the workplace and/or advanced research in statistics or fields in which knowledge of statistics is required, particularly careers in data science, market analysis, business analysis, bioinformatics, psychometrics, and public relations. Our career advising is based on the close monitoring of the types of analytics needed today and in the future.

Required Courses

Code	Title	Credit Hours
Applied Analytics Requirements		(127-129)
Introduction to the Professions		2-3
LCHS 100 or BUS 100	Introduction to the Professions Introduction to Business and Economics	2-3
Theory and Data (TD) Requirements		18
PSYC 204 or SSCI 209	Research Methods in Behavioral Science Social Science Research Methods	4
PSYC 203 or MATH 225 or BUS 221	Undergraduate Statistics for the Behavioral Sciences Introductory Statistics Business Statistics	4
PSYC 320	Applied Correlation and Regression	3
MATH 251	Multivariate and Vector Calculus	4
MATH 474	Probability and Statistics	3
Specialization Requirements		15
Students must complete 15 credit hours in a specialization track. Select five courses in one of the specialization tracks below:		
Consumer Research Specialization		
ECON 151	Microeconomics	3
ECON 152	Macroeconomics	3
BUS 371	Marketing Fundamentals	3
BUS 473	Marketing Research	3
BUS 476	Consumer Behavior	3
PSYC 310	Social Psychology	3
PSYC 409	Psychological Testing	3
People Analytics Specialization		
PSYC 301	Industrial Psychology	3
PSYC 310	Social Psychology	3
PSYC 455	Development and Evaluation of Training in Organizations	3
COM 383	Social Networks	3
BUS 301	Organizational Behavior	3
BUS 321	Optimization and Decision-Making	3

Social Sciences Specialization

SSCI 225	Introduction to Geographic Information Systems	3
SSCI 204	States, Markets, and Society	3
SSCI 321	Social Inequality	3
SSCI 385	Special Topics ^{with approval of advisor}	3
SSCI 388	Methods of Economic Impact Analysis	3
PS 360	Global Political Economy	3

Communicating About Data (CAD) Requirements 12

One course must be an ethics course. Select a minimum of four courses from the following:

COM 421	Technical Communication	3
COM 424	Document Design	3
COM 428	Verbal and Visual Communication	3
ITM 300	Communication in the Workplace	3
ITM 301	Introduction to Contemporary Operating Systems and Hardware I	3
ITMD 361	Fundamentals of Web Development	3
ITMD 362	Human-Computer Interaction and Web Design	3
ITMD 460	Fundamentals of Multimedia	3
PHIL 351	Science and Values	3
PHIL 360	Ethics	3
PHIL 373	Business Ethics	3
PHIL 374	Ethics in Computer Science	3
PHIL 377	Communication Law and Ethics	3

Capstone Project 3

PSYC 485	Senior Capstone Project I	3
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Select one CS Minor from Artificial Intelligence, Database Management or Computer Science ¹ 16

Mathematics Requirements 10

MATH 151	Calculus I	5
MATH 152	Calculus II	5

Computer Science Requirements 2

Select one of the following:

CS 105	Introduction to Computer Programming	2
or CS 115	Object-Oriented Programming I	

Natural Sciences Requirements

See Illinois Tech Core Curriculum, section D 10-11

Interprofessional Projects (IPRO)

See Illinois Tech Core Curriculum, section E 6

Humanities and Social Sciences Requirements

See Illinois Tech Core Curriculum, sections B and C 21

Free Electives 12

Select 12 credit hours

Total Credit Hours 127-129

Minimum degree credits required: 127/129

¹ Minor in Artificial Intelligence, Database Management, Computer Science

Bachelor of Science in Applied Analytics Curriculum

		Year 1	
Semester 1	Credit Hours	Semester 2	Credit Hours
Introduction to the Profession ¹	2-3	MATH 152	5
HUM 200	3	CS 201	4
CS 105 ²	2	Science Elective	3
MATH 151	5	Science Elective LAB	1
Science Elective	3	Social Sciences Elective	3
15-16		16	
		Year 2	
Semester 1	Credit Hours	Semester 2	Credit Hours
MATH 251	4	PSYC 203, BUS 221, or MATH 225	4
CS minor ⁴	3	Specialization Course ³	3
Social Sciences Elective (300+)	3	CS minor ⁴	3
HUM elective (300+)	3	Social Sciences Elective (300+)	3
Free Elective	3	Humanities Elective (300+)	3
16		16	
		Year 3	
Semester 1	Credit Hours	Semester 2	Credit Hours
PSYC 320	3	PSYC 204	4
CS minor ⁴	3	Specialization Course ³	3
Communicating about Data Elective ⁵	3	CS minor ⁴	3
Specialization course	3	Communicating about Data elective ⁵	3
Science elective	3-4	Free Elective	3
15-16		16	
		Year 4	
Semester 1	Credit Hours	Semester 2	Credit Hours
MATH 474	3	Capstone Project ⁶	3
Specialization Course ³	3	Communicating about Data Elective ⁵	3
Communicating about Data Elective ⁵	3	Specialization Course ³	3
IPRO elective	3	IPRO Elective	3
Social Sciences or Humanities elective	3	Free Elective	3
Free Elective	3		
18		15	

Total Credit Hours: 127-129

¹ Choose from the following courses: BUS 100 or LCHS 100.

² The CS 105 and CS 201 sequence may be substituted with the CS 115 and CS 116 sequence.

³ See specialization course options on the Program Requirements tab.

⁴ Choose from COM 421, COM 424, COM 428, ITM 300, ITM 301, ITMD 361, ITMD 362, ITMD 460, PHIL 351, PHIL 360, PHIL 373, PHIL 374 or PHIL 377

⁵ Choose a CS minor from AI, Database Management, or Computer Science.

⁶ Topic must be approved by adviser.