Simmons UNIVERSITY

Data Science & Analytics Academic Planning Worksheet

2018-2019 Catalog

Notes

- See "Simmons PLAN & Graduation Requirements" worksheet for all-college requirements.
- A typical schedule of courses is:
 - o CS 112 & 113 and MATH 118 & 228 in the first year
 - o MATH 227 & 229 and CS 333 in the second year
 - o MATH/CS 346, CS 347 and BUS 100 & 221 in the third year
 - o Internship and LIS 473 in the fourth year
- Students starting the major in their second year will combine the third and fourth year programs.

Major Core

Majors will complete a core of the following courses.

Course #	Course Title	Credits	Completed
CS 112	Introduction to Computer Science	4	
CS 113	GUI and Event-Driven Programming	4	
CS 333	Database Management	4	
CS/MATH 346	Data Mining	4	
CS 347	Applied Data Science (a capstone course)	4	
MATH 118	Introductory Statistics (unless taken in H.S.)	4	
MATH 227	Statistical Design & Analysis	4	
MATH 228	Introduction to Data Science	4	
MATH 229	Regression Analysis	4	
BUS 100	Foundations of Business & Management	4	
BUS 221	Project Management	4	
LIS 473	Information Visualization	3	

Areas of Concentration

- Complete all of the courses in one "area of concentration," as outlined below.
- Students with other interests should consult program faculty or their advisors.

Biology-Bioinformatics

Course #	Course Title	Credits	Completed
BIOL 113/ 115	General Biology or	4	
	Advanced General Biology		
BIOL 225	Cell Biology	4	
BIOL 337	Molecular Biology	4	
CHEM 111/ 113/ 115	Introductory Chemistry: Inorganic,	4	
	Principles of Chemistry, or		
	Advanced General Chemistry		
CHEM 112	Introductory Chemistry: Organic	4	

Biochemistry

Course #	Course Title	Credits	Completed
BIOL 113/ 115	General Biology or	4	
	Advanced General Biology		
BIOL 225	Cell Biology	4	
BIOL 336	Genetics	4	
CHEM 111/ 113/ 115	Introductory Chemistry: Inorganic,	4	
	Principles of Chemistry, or		
	Advanced General Chemistry		
CHEM 112	Introductory Chemistry: Organic	4	
CHEM 223	Introduction to Biochemistry	4	

Chemistry

Course #	Course Title	Credits	Completed
CHEM 111/ 113/ 115	Introductory Chemistry: Inorganic,	4	
	Principles of Chemistry, or		
	Advanced General Chemistry		
CHEM 112 OR	Introductory Chemistry: Organic OR	4 or 8	
CHEM 224 & 225	Organic Chemistry I & II		
CHEM 216	Quantitative Analysis	4	
CHEM 223 OR	Introduction to Biochemistry OR	4	
CHEM 345	Biochemistry		



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Course #	Course Title	Credits	Completed
COMM 121	Visual Communications	4	
COMM 244	Web I: Design for the World Wide Web	4	
COMM 210	Introduction to Graphic Design	4	
COMM 240	Intermediate Graphic Design I: Typography	4	
COMM 248	Intermediate Graphic Design II: Type and Image	4	

Computer Science

Course #	Course Title	Credits	Completed
CS 226	Computer Organization and Architecture	4	
CS 227	Computer Networks	4	
CS 232	Data Structures and Algorithms	4	
CS 327	Cybersecurity	4	
CS 330 OR	Structure & Organization of Programming Languages OR	4	
CS Elective	other CS elective (chosen with advisor)		

Economics

Course #	Course Title	Credits	Completed
ECON 100	Principles of Microeconomics	4	
ECON 101	Principles of Macroeconomics	4	
ECON 393	Econometrics	4	

TWO electives chosen from the following courses.

Course Selected	Credits	Completed
	4	
	4	

ECON 216	Economic Development
ECON 218	International Trade
ECON 220	International Monetary Systems
ECON 222	Comparative Economies of East Asia
ECON 231	Money and Banking
ECON 236	Public Economies
ECON 247	Environmental Economics
ECON 241	Business Competition and Antitrust Policy

Management - Finance

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	Course #	Course Title	Credits	Completed
	ACCT 110	Financial Accounting	4	
	BUS 260	Finance	4	

THREE electives chosen from the following courses.

Course Selected	Credits	Completed
	4	
	4	
	4	

BUS 310	Financial Statement Analysis
BUS 311	Investments
BUS 314	International Finance
BUS 315	Corporate Financial Planning & Strategy
BUS 393	Financial Modeling

Management- Health Care Management

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Course #	Course Title	Credits	Completed
BUS 100	Introduction to Management	4	
BUS 120	Introduction to Health Systems	4	
BUS 239	Health Care Finance	4	



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TWO electives chosen from the following courses.

Course Selected	Credits	Completed
	4	
	4	

BIOL 246	Foundations of Exercise and Health
BUS 137	Entrepreneurship and Innovation
BUS 180	Business Law
BUS 225	The Manager and the Legal Environment
BUS 234	Organizational Behavior and Communication
ECON 239	Government Regulation of Industry
IT 225	Health Informatics
NURS 100	Professional Issues in Nursing
NUTR 249	Leadership in Food Service Management
PHIL 131	Biomedical Ethics
POLS 217	American Public Policy
PSYC 232	Health Psychology
PSYC 239	Psychology of Aging
SOCI 241	Health, Illness and Society
SOCI 245	International Health
SOCI 345	Health Systems and Policy
SW 101	Introduction to Social Work and Social Welfare
SW 200	Social Welfare Policy

Management- Marketing

Course #	Course Title	Credits	Completed
BUS 100	Introduction to Management	4	
BUS 250	Marketing	4	

THREE electives chosen from the following courses.

Course Selected	Credits	Completed
	4	
	4	
	4	

BUS 225	The Manager and the Legal Environment
BUS 229	Corporate Social Responsibility: Managing People, Planet and Profit
BUS 231	Creating Brand Values
BUS 232A	Strategic Marketing Communications I: Advertising
BUS 232B	Strategic Marketing Communications II: NSAC Competition
BUS 233	Developing Customer Relationships
BUS 335	Marketing Research
BUS 348	The Sustainable Supply Chain
BUS 392	Marketing Decision Making
BUS 394	Comparative Retail Strategies

Mathematics - Statistics

Course #	Course Title	Credits	Completed
MATH 211	Linear Algebra	4	
MATH 220	Multivariable Calculus	4	
MATH 338	Probability	4	
MATH 339	Mathematical Statistics	4	
MATH elective	MATH elective to be chosen with advisor:	4	



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Political Science/International Relations

Course #	Course Title	Credits	Completed
POLS 101	Introduction to American Politics	4	
POLS 102	Introduction to International Politics	4	
POLS 104	Introduction to Comparative Politics	4	

TWO electives chosen from the following courses.

Course Selected	Credits	Completed
	4	
	4	

POLS 213	Politics in the Republic: Congress and the Presidency
POLS 215	The Politics of Exclusion
POLS 217	American Public Policy
POLS 218	Parties and Elections
POLS 219	Gender and Politics
POLS 229	Comparative Foreign Policy
POLS 249	U.S. Foreign Policy 1945 – Present
POLS 250	Democratization in Latin America

Public Health

Course #	Course Title	Credits	Completed
BIOL 104	Introduction to Environmental Science	4	
BIOL 346	Epidemiology of Infectious Disease	4	
SOCI 241	Health, Illness and Society	4	
SOCI 245 OR	International Health OR	4	
SOCI 345	Health Systems and Policy		
Elective	An elective to be chosen with advisor:	4	

Sociology

Ī	Course #	Course Title	Credits	Completed
Ī	SOCI 101	Principles of Sociology	4	·
Ī	SOCI 239	Introduction to Social Research	4	

THREE electives chosen from the following courses.

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	Course Selected	Credits	Completed		
		4			
		4			
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SOCI 245	International Health
SOCI 249	Inequality: Race, Gender and Class
SOCI 262	Criminology
SOCI 263	Sociology of Education
SOCI 321	Sociology of Food

Capstone

Complete 4 credit hours to fulfill the Capstone Requirement in computer science (CS 346 Data Mining and/or CS 347 Applied Data Science)

Course Selected	Credits	Completed