



Data Analytics Program Advising Sheet

Courses required for the first year: None
Courses recommended for the first year: Data 101
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Program Overview

Great Career Path

- There has never been a better time to learn data analytics and enter the workforce.
- Demand for data analytics professionals outweighs supply which leads to high salaries.

Multidisciplinary Program

- Data Analytics
- Computer Science
- Math
- Statistics
- Ethics

Combine with Other Majors

- Augustana's data analytics program is open to any student on campus, regardless of major area of interest.
- Any major that needs to analyze large volumes of data will be a good fit with the data analytics program.

Minor

- The minor is a great complement to other areas of study.
- The minor introduces data analytics concepts and provides opportunities to apply those concepts.

Major

- The major is primarily designed to complement other areas of study; however, it can also be a primary area of focus.
- The major includes two tracks:
 - Business Analytics - use of statistical concepts to extract insights from business data.
 - Data Science - interdisciplinary field of data inference, algorithm building, and systems to gain insights from data.

**The Major in Data Analytics
Business Analytics Track**

Required Courses

Course Number	Course Name	Learning Perspective/ Suffix	Prerequisites	Usually offered: F, J, SP, SU*	Credits
DATA 101	Introduction to Data Analysis		None	F, J, SP, SU	4
CSC 201	Introduction to Computer Science		Placement into MATH-140	F, J, SP, SU	4
Statistics	Departmental Statistics - <u>one</u> of: BUSN 211 Business Statistics MATH 330 Probability and Statistics PSYC 240 Statistics SOAN 227 Social Statistics		BUSN 211 : BUSN Major or permission of instructor MATH 330 : Math 160, 250 PSYC 240 : Permission of instructor SOAN 227 : None		4
Ethics	Ethical Issues in Data Science Elective - <u>one</u> of: BUSN 307 Social Issues in Management PHIL 330 Applied Ethics RELG 356 Business Ethics		None		4
DATA 331 (Previously BUSN 351)	Introduction to Mgmt. Info. Systems		None	F	4
DATA 332 (Previously BUSN 352)	System Analysis & Design		DATA 331	S	4
DATA 340	Data Mining		CS 201, DATA 101, DATA 331, Note ¹	F	4
DATA 490	Senior Inquiry		DATA 101, CSC 201, and one of BUSN 211, MATH 330, PSYC240, SOAN 227	SP	4

Additional Recommended Courses

Course Number	Course Name	Learning Perspective/ Suffix	Prerequisites	Usually offered: F, J, SP, SU*	Credits
DATA 100	Spreadsheet Software (for students with no Excel experience)		None	F, J, SP, SU	1
DATA 350	Machine Learning		DATA-101, CSC-201, MATH-160, and either MATH-330 or BUSN-211	SP	4

¹ Plan to add statistics as a prerequisite starting in 2022 (one of BUSN 211, MATH 330, PSYC240, SOAN 227).

The Major in Data Analytics Data Science Track

Required Courses

Course Number	Course Name	Learning Perspective/ Suffix	Prerequisites	Usually offered: F, J, SP, SU*	Credits
DATA 101	Introduction to Data Analysis		None	F, J, SP, SU	4
CSC 201	Introduction to Computer Science		Placement into MATH 140	F, J, SP, SU	4
Ethics	Ethical Issues in Data Science Elective - <u>one</u> of: BUSN 307 Social Issues in Management PHIL 330 Applied Ethics RELG 356 Business Ethics		None		4
DATA 350	Machine Learning		DATA-101, CSC-201, MATH-160, and either MATH-330 or BUSN-211	SP	4
DATA 490	Senior Inquiry		DATA 101, CSC 201, MATH 330	SP	4
MATH 250	Discrete Mathematics		MATH 160	F	4
MATH 330	Probability and Statistics		MATH 250	F	4
MATH 420	Statistical Learning		MATH 330	SP (every other starting 2022)	4

Recommended Courses

Course Number	Course Name	Learning Perspective/ Suffix	Prerequisites	Usually offered: F, J, SP, SU*	Credits
DATA 100	Spreadsheet Software (for students with no Excel experience)		None	F, J, SP, SU	1
DATA 340	Data Mining		CS 201, DATA 101, DATA 331, Note ²	F	4

² Plan to add statistics as a prerequisite starting in 2022 (one of BUSN 211, MATH 330, PSYC240, SOAN 227).

The Minor in Data Analytics³

Required Courses

Course Number	Course Name	Learning Perspective/ Suffix	Prerequisites	Usually offered: F, J, SP, SU*	Credits
DATA 101	Introduction to Data Analysis		None	F, J, SP, SU	4
CSC 201	Introduction to Computer Science		Placement into MATH 140	F, J, SP, SU	4
Statistics	Departmental Statistics - <u>one</u> of: BUSN 211 Business Statistics MATH 330 Probability and Statistics PSYC 240 Statistics SOAN 227 Social Statistics		BUSN 211: BUSN Major or permission of instructor MATH 330: Math 160, 250 PSYC 240: Permission of instructor SOAN 227: None		4
Ethics	Ethical Issues in Data Science Elective - one of: BUSN 307 Social Issues in Management PHIL 330 Applied Ethics RELG 356 Business Ethics		None		4
Content Elective	Content Elective - one of: ACCT 311 Accounting Information Systems BUSN 325 Digital Marketing & Analytics GEOG 273 Intro GIS for Natural Sciences GEOG 274 Intro GIS for Social Sciences		ACCT 311: ACCT 200 or ACCT 201 BUSN 325: ACCT 201, BUSN 205, ECON 200 BUSN 321 GEOG 273: None GEOG 274: None	S	4
DATA 360	Practicum in Data Science		DATA 101, CSC 201, and one of BUSN 211, MATH 330, PSYC240, SOAN 227	S	4

Recommended Course

Course Number	Course Name	Learning Perspective/ Suffix	Prerequisites	Usually offered: F, J, SP, SU*	Credits
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³ The program evaluation may still assume the requirements that were in place prior to conversion to semesters. If so, substitutions may be necessary in the program evaluation. See Course Substitution Notes.

DATA 100	Spreadsheet Software (for students who have not had any exposure to Microsoft Excel)		None	F, J, SP, SU	1
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The Minor in Data Analytics - Substitution Notes

The program evaluation may still assume the requirements that were in place prior to conversion to semesters. If so, substitutions may be necessary in the program evaluation.

Minor under Trimesters

Required Courses

- CSC112 - Excel Spreadsheet (1 credit) *Note 1*
- DATA101 – Intro to Data Analysis
- **CSC211** – Intro to Programming (Currently Java; eventually Python) *Note 2*
- Departmental Stats (**MATH315** / PSYC240 / BUSN211 / **SOC230**) *Note 3*
- Content Elective – one of
 - ACCT311 (Accounting Systems and Control)
 - BUSN325 (Digital Marketing and Analytics)
 - **GEOG373** (GIS w/ Remote Sensing) or **374** (w/ Soc Sci & Bus Applications) *Note 4*
- Presentation Elective - one of: *Note 5*
 - COMM401 (Business & Professional Communication)
 - GRD225 (Intro to Graphic Design)
 - CSC215 (Web Programming)
 - GRD327 (Web Design)
- DATA360 Practicum in Data Science

Recommended Supporting courses *Note 6*

- BUSN307 (Social Issues in Management) or RELG327 (Business Ethics)
- BUSN351 (Introduction to Management Information Systems)

Notes

#	Note
1	CSC 112 - no longer required. DATA 100, Spreadsheet Software, is now recommended (but not required) for students who have not had any exposure to Microsoft Excel.
2	CSC 211 - now CSC 201
3	MATH 315 - Now MATH 330 SOC 230 - Now SOAN 227
4	GEOG 373 - Now GEOG 273 GEOG 374 - Now GEOG 274
5	Presentation Elective - No longer required. Substitute with ethics course which is now required. Ethical Issues in Data Science Elective - one of: BUSN 307 Social Issues in Management PHIL 330 Applied Ethics RELG 356 Business Ethics
6	Recommended Supporting courses no longer apply; however, DATA 100 is now recommended. An ethics course is now required. BUSN 351 is now part of the major.