

**Advising sheet for: MAJOR IN DATA ANALYTICS**

Assumption University, Department of Mathematics and Computer Science  
*Checklist*

The major consists of a total of fifteen required courses, which comprise thirteen specifically required courses in computer science, mathematics, and statistics; and two electives.

We recommend to students interested in the data analytics major: take CSC-120 as early as possible, because it is part of the major required sequence CSC-120, CSC-233, CSC-333.

Required Courses (13)

Completed	Requirement	Course	Prerequisite	Semester Planned
	Statistics Programming	CSC-120	MAT-111, or placement MAT-114 or higher	
	Large Data Sets	CSC-233 (Spring)	CSC-120	
	Machine Learning	CSC-333 (Fall)	CSC-233	
	Calculus I	MAT-131H (Fall) or MAT-117	Placement or MAT-114	
	Calculus II	MAT-132H (Spring) or MAT-118	MAT-131 or MAT-117	
	Statistics	ECO-115, PSY-224, or SOC-300 (Fall)	BUS-100 (for ECO-115 only)	
	Discrete Structures	MAT-202 (Fall)	MAT-118 or MAT-132, completed or concurrent	
	Probability Theory	MAT-208 (Spring)	MAT-118 or MAT-132	
	Linear Algebra	MAT-203 (Spring)	MAT-202	
	Intro. to Programming	CSC-117 (Fall)		
	Data Visualization	CSC-130 (Spring)	Statistics	
	Databases & Spreadsheets, or Database Management Systems	CSC-175 (Fall) or	CSC-113 or CSC-117	
		CSC-321 (Spring)	CSC-305, or instructor permission	
	Econometrics I	ECO-215 (Fall)	Statistics; and Calculus I; and BUS-100 or CSC- 113 or CSC-175	

Elective Courses - Select a minimum of 2 additional electives:

- ACC-211 Accounting Information Systems, *prerequisite ACC 125-126*
- ACC-331 Fraud Examination, *prerequisite ACC 125-126 and MGT-100* [Fall]
- ACC-332 Forensic Accounting, *prerequisite ACC/MGT-331* [Spring]
- BIO-260 Bioinformatics, *prerequisite BIO-160 or CSC-120* [Spring, even years]
- BUS-304 Business Research, *prerequisite MKT-101, ECO-115, and Junior/Senior standing* [Spring]
- CSC-261 Simulation, *prerequisite CSC-117* [Spring, even years]
- CSC-327 Operations Research, *pre-/co-requisite CSC-305* [Fall, even years]
- ECO-216 Sports Data Analysis, *prerequisite ECO-215* [Spring, alternate years]
- FIN-330 Financial Modelling, *prerequisite FIN-325 and ECO-115* [Spring; first offered in 2022]
- FIN-430 Financial Econometrics, *prerequisite ECO-215* [Spring; first offered in 2023]
- GEO-108 World Population Issues [Fall, alternate years]
- MGT-230 Decision Analytics for Managers, *prerequisite MGT-100 and Statistics*
- PSY-225 Research Methods in Psychology, *prerequisite PSY-101 and PSY-224 Statistics*
- SOC-390 Sociological Research Methods, *prerequisite SOC-121* [Spring]

Completed	Course	Semester Planned

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*A suggested schedule - for students entering in Fall 2021, or any year.  
See Assumption's Catalog for additional information, e.g. Core Curriculum requirements.*

First Year: Fall 2021	Spring 2022
1. CSC-120 Stats Programming [any term]	1. CSC-233 Large Data Sets [Spring only]
2. MAT-131 Hon. Calculus I [Fall only] Or MAT-117 Calculus I [any semester] <i>Follow your Math Placement.</i>	2. MAT-132 Hon. Calculus II [Spring] Or MAT-118 Calculus II [any semester] <i>Finish Calculus I-II soon if possible.</i>
3.	3. Statistics ECO-115 [any term], Or PSY-224 [any term], Or SOC-300 [Fall]
4.	4.
5.	5.
6. BUS-100 Intro. to Excel (1-credit)	

Second Year: Fall 2022	Spring 2023
1. CSC-333 Machine Learning [Fall]	1. MAT-208 Probability Theory [Spring]
2. MAT-202 Discrete Structures [Fall]	2. CSC-130 Data Visualization [Spring]
3. CSC-117 Intro. to Programming [Fall]	3.
4.	4.
5.	5.

Third Year: Fall 2023	Spring 2024
1. ECO-215 Econometrics I [Fall]	1. MAT-203 Linear Algebra [Spring]
2. CSC-175 Databases & Spreadsheets [Fall] Or CSC-321 Database Mgt Syst. [Spring]	2. Data Analytics Major Elective #1/2
3.	3.
4.	4.
5.	5.

Fourth Year: Fall 2024	Spring 2025
1. Data Analytics Major Elective #2/2	1.
2.	2.
3.	3.
4.	4.
5.	5.

Also recommended:

CSC-301 Systems Analysis and Design, *prerequisite CSC-117 or equivalent* [Fall, odd years]

CSC-305 Data Structures, *prerequisite CSC-250* [Fall]

CSC-317 Java Programming, *prerequisite CSC-305* [Spring, odd years]

CSC/CYB-230 Networking & Data Communications, *prerequisite CYB-115 or CSC-117 or CSC-120* [Fall]

PHI-260 Business Ethics, *prerequisite PHI-100 and PHI-151*

OR

MGT-350 Professional & Ethical Responsibilities in the Sport Industry, *prerequisite MGT-342* [Spring]