

Data Science Certificate Application Electives

Course #	Course Name	Credits	Semester	Required Pre-Regs (C minimum grade needed)–updated 8/13/25
<i>Data Science Certificate</i>				
ANTH 5234	Population Issues in Anthropology	3	Fall	MATH 1030 OR higher AND (ANTH 1010 OR ANTH 1020 OR ANTH 1030 OR ANTH 1050)
ATMOS 3000	Professional Development in Atmospheric Sciences	2	Fall	
ATMOS 5340	Environmental Programming AND Statistics	3	Varies	MATH 1210
ATMOS 5400	The Climate System	3	Fall	Math 1050
BIOL 3515	Biological Chemistry Laboratory	3	Spring	Co-Req: C- or better BIOL 3510 OR CHEM 3510
BME 6770	Genomic Signal Processing	3	Spring	Graduate Status or instructor consent
BME 6780	Data Science for Bioengineers	3	Fall	BME 3301 OR equivalent (Instructor permission)
BMI 5010	Foundations of Health Informatics	2	Fall	
BMI 5018	Intro to Prof for Biomedical Data Science	3	Fall	
BMI 5030	Foundations of Bioinformatics	2	Fall	
BMI 6015	Applied Machine Learning in BMI	3	Fall	
BMI 6060	Applied Computational Genomics	3	Spring	Knowledge of Molecular Biology
CS 3540	Human/Computer Interaction	3	Fall/Spring	CS 2420 AND Full Major Status in CS
CS 5140	Data Mining	3	Fall	CS 3190 AND Full Major Status in CS
CS 5530	Database Systems	3	Spring	CS 3500 AND Full Major Status in CS
ECON 3100	Labor Economics	3	Fall/Spring/Summer	
ECON 3200	Money and Banking	3	Fall/Spring/Summer	

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ECON 3500	International Economics	3	Fall/Spring	
ECON 3540	Current Economic Problems	3		
ECON 4010	Intermediate Microeconomic Analysis	3	Fall/Spring/Summer	SEE CATALOG FOR PREREQS
ECON 4011	Intermediate Microeconomic Analysis for Business Economics and Analytics	3	Fall/Spring	SEE CATALOG FOR PREREQS
ECON 4020	Intermediate Macroeconomic Analysis	3	Fall/Spring/Summer	SEE CATALOG FOR PREREQS
ECON 4650	Principles of Econometrics	3	Fall/Spring/Summer	SEE CATALOG FOR PREREQS
ECON 5190	Health Economics	3	Fall/Spring	
FINAN 3000	Fund of Investing and Business Finance	3	Fall/Spring/Summer	SEE CATALOG FOR PREREQS
FINAN 4070	Investments	3	Fall/Spring/Summer	SEE CATALOG FOR PREREQS
FINAN 5050	Financial Management	3	Fall/Spring/Summer	Prerequisites: 'C-' or better in MATH 1050 OR MATH 1080 OR MATH 1090 OR MATH 1100 OR MATH 1105 OR MATH 1210 OR MATH 1310 OR AP Calc AB score of 3+ OR AP Calc BC score of 3+
FINAN 5115	Fintech Workshop	3	Spring	C+ or better in BCOR 3020 OR FINAN 3020 OR FINAN 5050
FINAN 5140	Fintech Trading Lab	3	Fall	C-' or better in BCOR 3020 OR FINAN 3020 OR FINAN 5050
GEO 3070	Mineralogy and Petrology for Engineers	2	Every other Fall	GEO 1110 AND GEO 1115
GEOG 3020	Geographic Analysis	4	Spring	SEE CATALOG FOR PREREQS
GEOG 3110	Introduction to Remote Sensing	3	Fall	
GEOG 4140	ADV Methods in Geographic Info Systems	4	Fall/Spring	GEOG 3100 OR GEOG 3140

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GEOG 5110	Environ. Analysis through Remote Sensing	3	Spring	GEOG 3110
GEOG 4150	Geospatial Big Data	4	Fall	GEOG 4140
GEOG 5160	Spatial Modelling and Geocomputation	4	Spring	GEOG 4140
IS 4420	Database Fundamentals	3	Fall/Spring/Summer	SEE CATALOG FOR PREREQS
IS 4482	Data Mining for Business Applications	3	Fall	SEE CATALOG FOR PREREQS
LING 2475	Language Myths	3	Fall/Spring	
LING 3020	Introduction to Syntax	3	Fall/Spring	C-' or better in LING 2200
LING 3340	Introduction to Computation Linguistics	3	Every other Spring	LING 2200 AND (LING 2300 OR CS 1420)
MATH 3080	Applied Statistics II	3	Spring	MATH 3070
MATH 5010	Introduction to Probability	3	Fall/Spring/Summer	C' or better in (MATH 1260 OR MATH 1321 OR MATH 2210 OR MATH 2310 OR MATH 3140)
ME EN 3310	Mechanics of Materials	3	Fall/Spring	SEE CATALOG FOR PREREQS
ME EN 3315	Mechanics of Materials Lab	1	Fall/Spring	Full Major status in Mechanical Engineering. Corequisites: 'C' or better in ME EN 3310
ME EN 4650	Thermal Fluid and Energy Systems Lab	3	Fall/Spring	ME EN 2550, 3400, (2300, OR 3600 OR 3610) AND (37100 3710); Co Req: 4610 OR 3650
ME EN 5035	Design of Experiments - HASN'T BEEN OFFERED FOR 3 YEARS	3	Fall	
PHIL 3200	Deductive Logic	3	Fall/Spring	
PHIL 3210	Inductive Logic	3	Fall/Spring	
PHIL 5200	Advanced Deductive Logic	3	Fall	PHIL 3200 OR PHIL 3210

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PHIL 5210	Advanced Inductive Logic	3	Fall/Spring	PHIL 3200 OR PHIL 3210
POLS 3001	Political Analysis	3	Fall/Spring/Summer	
PRT 3780	Evidence-based Decision Making in Parks, Recreation, and Tourism	3	Fall/Summer	Complete 2 classes that fulfill a QA and WR2
PSY 3000	Statistical Methods in Psychology	4	Fall/Spring/Summer	SEE CATALOG FOR PREREQS
QAMO 3010	Business Economics	3	Fall	SEE CATALOG FOR PREREQS
ROBOT 6400	Neural Engineering and Neurorobotics	4	Fall	Graduate status OR Instructor Consent
SOC 3673	Social Epidemiology	3	Fall/Spring/Summer	
STAT 5003	Survey of Statistical Computer Packages	3	Fall/Spring	Knowledge of spreadsheets and applied statistics through regression
WRTG 4030	Visual Rhetoric	3	Fall/Spring/Summer	WRTG 2009 OR 2010 OR WR2 Equivalent