

AUBURN UNIVERSITY AT MONTGOMERY MATHEMATICS MAJOR STUDY PLAN

Concentrations in Mathematics, Statistics, and Data Science (last rev. 2024-09-13)

Name _____ Student Number _____ Email _____ PIN _____

COURSE	SEM. HRS.	GRADE	COMMENTS	COURSE	SEM. HRS.	GRADE	COMMENTS
AREA I (Written Composition)				AREA V (Major Courses)			
				CORE (34 hours)			
ENGL 1010 (English Composition I)	3			MATH 1620 (Calculus II)	4		
ENGL 1020 (English Composition II)	3			MATH 2630 (Multivariable Calculus)	4		
AREA II (Humanities and Fine Arts Literature)				MATH 2660 or 3660 (Linear Algebra/Applied L. Alg.)	3		
Fine Arts ⁽¹⁾	3			MATH 3000 (Intro to Higher Math)	3		
Literature ^(2a)	3			MATH 3690 (Differential Equations)	3		
Literature ^(2a) or Foreign Language ^(2b)	3			MATH 4210 (Analysis I)	3		
COMM 2212(p. sp) /COMM 2100 (m&c)	3			MATH 4310 (Modern Algebra I)	3		
AREA III (Natural Sciences and Mathematics)				STAT 4670 (Mathematical Statistics)	3		
MATH 1610 (Calculus I)	4			MATH 4950 (Math Senior Seminar)	2		
PHYS/CHEM/PSCI+lab ^(2c)	4			STAT 3000 ^(5a)	3		
PHYS/CHEM/PSCI+lab ^(2c)	4			STAT 1010 (Intro Data Science)	3		
				ELECTIVES (min. 30 hours)			
AREA IV (History, Social Sciences and Behavioral Sciences)				Concentration I: Traditional Mathematics (min. 30 hours)			
History ^(3a)	3						
History ^(3a) or Literature ^(2a)	3			Science/MATH/STAT/CSCI/approved course ^(5b)	4/3		
Social Science ^(3b)	3			MATH/STAT 4000-level ^(4a)	3		
Social Science ^(3b)	3			MATH 4000-level ^(4a)	3		
FREE ELECTIVES (13 ~ 14 sem. hrs.)				MATH 4000-level ^(4a)	3		
UNIV 1000	3			MATH 4000-level ^(4a)	3		
ENGL 3030 (Technical Writing)	3			MATH 4000-level ^(4a)	3		
				MATH 4000-level ^(4a)	3		
				Field of Application ⁽⁶⁾			
				Application course 1	3		
				Application course 2	3		
				Application course 3	3		

Prerequisites for Core Math Courses:

MATH 1620: MATH 1610

MATH 2630: MATH 1620

MATH 2660: MATH 1620

MATH 3000: MATH 1610 AND ENGL 1010

MATH 3690: MATH 1620

MATH 4210: MATH 3000, MATH 2660 OR MATH 3660

MATH 4310: MATH 3000 MATH 2660 OR MATH 3660

STAT 4670: MATH 1620

MATH 4950: MATH 3000; AND ONE OF MATH 4040, 4050, 4110, 4200, 4210, 4310, 4400, 4470, 4600, 4670; AND SENIOR STATUS

STAT 3000: STAT 1070 OR MATH 1020 OR MATH 1050 OR

MATH 1100 OR MATH 1120 OR MATH 1150 OR MATH 1610

- (1) VISU 1000/2030/2040, MUSI 2110, THEA 2040, or other state-approved Fine Arts course.
- (2a) ENGL 2530, ENGL 2540, ENGL 2570, ENGL 2580, ENGL 2600, ENGL 2610, or other state-approved Literature courses. (2b) FREN, GERM, SPAN, or other State-approved Foreign Language courses.
- (2c) PHYS 2100/1, PHYS 2200/1, CHEM 1100/1, CHEM 1200/1, PSCI 1100/1, PSCI 1300/1, PSCI 1400/1, PSCI 1500/1 or approved equivalent area III core course;
- (3a) Choose one of the sequences HIST1010/1020 (World History), HIST 1060/1070 (Western Civilization) or HIST 2010/2020 (U.S. History).
- (3b) ANTH 2110, ECON 2010, ECON 2020, GEOG 2050, GEOG 2150, HIST 1060, HIST 1070, HIST 2010, HIST 2020, PSYC 2110, POLS 2020, SOCI 2000, or other state-approved Soc. Science course.
- (4a) Choose 4000-level MATH courses from 4110, 4200, 4220, 4230, 4300, 4320, 4470, 4400, 4500, 4600, 4610, 4690, 4970, 4680, 4997 or other approved MATH 3000/4000-level courses. Traditional Math concentration must include MATH 4220 or 4320. If a STAT elective is chosen, choose any STAT 4000-level course.
- (4b) Choose 4000-level STAT courses from STAT 4210, 4310, 4610, 4620, 4670, 4680, 4690, 4700, 4710, 4924, 4932.
- (5a) Student may choose ENGR 1210/CSCI 2000/CSCI1110. For students who select Statistics or Data Science concentration, STAT 3000 must be selected. For students who pursues a CSCI minor, CSCI 2000 should be chosen.
- (5b) Choose **one course** from any BIOL/CHEM/PHYS/PSCI core science or approved CSCI courses or approved MATH **2000+**-level courses or approved STAT **2000+**-level courses or approved courses related to a Field of Application.
- (6) Approved MATH/STAT 3000/4000-level courses or Up to three courses in one subject outside Mathematics at 2000-level or above. It must be approved by the Department. Courses must not be counted elsewhere on this sheet.
- (7) Students must complete a 6-semester hour sequence either in history or in literature.
- (8) MATH major with a CS minor: must include CSCI courses 2000, 3000, 2200, 3400, 3300, 4300.
- (9) Math major with an ECON minor: must include ECON courses: 2010, 2020, 3700, 4100, 4110, additional ECON 3000/4000 level course.

To convert quarter hours to semester hours, multiply by 2/3.

120 semester hours needed to graduate.

COURSE	SEM. HRS.	GRADE	COMMENTS	COURSE	SEM. HRS.	GRADE	COMMENTS
Concentration II: Statistics (min. 30 hours)				Concentration III: Data Science (min. 30 hours)			
Science/MATH/STAT/CSCI/approved course ^(5b)	4/3			Science/MATH/STAT/CSCI/approved course ^(5b)	4/3		
MATH 4000-level ^(4a)	3			MATH 4000-level ^(4a)	3		
MATH 4000-level ^(4a)	3			MATH 4000-level ^(4a)	3		
STAT 4000-level ^(4b)	3			STAT 4150	3		
STAT 4000-level ^(4b)	3			STAT 4160	3		
STAT 4000-level ^(4b)	3			STAT 4170	3		
STAT 4000-level ^(4b)	3			STAT 4500	3		
Field of Application ⁽⁶⁾				Field of Application ⁽⁶⁾			
Application course 1	3			Application course 1	3		
Application course 2	3			Application course 2	3		
Application course 3	3			Application course 3	3		