# AUBURN UNIVERSITY AT MONTGOMERY MATHEMATICS MAJOR STUDY PLAN

*Concentrations in Mathematics, Statistics, and Data Science* (last rev. 2026-5-21)

**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 | | |
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| | | | | **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 | | |
| STAT 2000 (Data Wrangling & Viz) | 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.

*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 2000: Data Wrangling & Visualization | 3 | | |
| STAT 4000-level (4b) | 3 | | | STAT 4160: Data Analysis Productivity Tools | 3 | | |
| STAT 4000-level (4b) | 3 | | | MATH/STAT 4000-level (4a, 4b) | 3 | | |
| STAT 4000-level (4b) | 3 | | | STAT 4500: Machine Learning | 3 | | |
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| 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 | | |

Last Revised: 1/23/2017, 9/16/2019, 9/26/2019, 10/21/2019, 01/24/2020, 4/05/2021,7/21/2021, 8/24/2021, 10/12/2021, 05/12/2022, 09/13/2024, 10/2/2025, 5/21/2026