

EAST CENTRAL UNIVERSITY
MATHEMATICS – DATA SCIENCE CONCENTRATION 0295
2025-26 Catalog Year

Requirements for Bachelor's Degrees

- 30 hours at ECU
- 60 hours at senior level college
- 40 hours upper level courses
- OSRHE computer proficiency requirement

I. General Education 40 hours

A maximum of 12 hours may be counted in both the major/related work and general education.

II. Major in Data Science Mathematics 46-52 hours

A. Required Mathematics Core 22-28 hours

- MATH 1513 College Algebra*
- MATH 1223 Intro to Prob & Statistics
- MATH 1713 Trigonometry*
- MATH 2825 Calculus & Analytical Geometry I
- MATH 3025 Calculus & Analytical Geometry II
- MATH 3033 Calculus & Analytical Geometry III
- MATH 3713 Linear Algebra
- MATH 4923 Perspectives in Mathematics

B. Required for Data Science Concentration 18 hours

- CPSMA 2103 Data Structures
- CPSMA 3813 Data Mining
- CPSMA 4313 Data Processing and Visualization
- CPSMA 4513 Data Applications in Business
- MATH 3513 Mathematical Statistics
- MATH 3583 Applied Statistics

C. Electives 6 hours

Two of the following:

- CPSMA 3913 Discrete Mathematics
- CPSMA 3933 Operations Research
- CPSMA 4413 Numerical Methods

III. Related Work 12 hours

- CMPSC 1113 Computer Programming I
- CMPSC 1133 Computer Programming II
- CMPSC 3313 Advanced Computer Languages
- CMPSC 4213 Data Base Design

IV. Minor (Not Required)

V. Electives 22-31 hours

VI. Total Hours Required 120 hours

VII. Special Requirements

Teachers or methods courses do not count in the major.

*With departmental approval, students may omit MATH 1513 and MATH 1713 and begin with MATH 2825