B. S. Mathematics (MAT)

College: Arts & Sciences

Option 3: Operations Research

Course requirements for all UNCW degrees include: (1) University Studies, (2) specific major requirements, and (3) sufficient elective hours for a combined total of a minimum of 124 hours.

MAJOR REQUIREMENTS – MAT (Minimum 54 hours)

Core Courses: (33 hours)

1+2.3 MAT 161 Calculus with Analytical Geometry I (4) Prerequisite: MAT 112 or 115 or equivalent preparation

3MAT 162 Calculus with Analytical Geometry II (4) Prerequisite: MAT 161

4*3MAT 261 Multivariate Calculus (4) Prerequisite: MAT 162

5 MAT 275 Axiomatic Systems (3) Prerequisite: MAT 152 or 161

6MAT 311 Intermediate Analysis (3) Prerequisites: MAT 261 and 275

73MAT 335 Linear Algebra and Matrices (3) Prerequisite: MAT 162

8MAT 336 Abstract Algebra (3) Prerequisite: MAT 275 or consent of instructor

9MAT 495 Seminar in Mathematics (3) Prerequisite: 9 hours of MAT courses at the 300-400 level

(Meets Applied Learning and Oral Communication Requirements)

10+3STT 215 Introduction to Statistics (3) Prerequisite: Satisfactory performance on the mathematics placement test or MAT 105

11 STT 315 Probability and Statistics (3) Prerequisites: STT 215 and MAT 152 or 162

Option 3: Operations Research (21 hours)

12MAT 435 Linear Programming (3) Prerequisites: CSC 112 or 121 and MAT 335

13MAT 436 Discrete Optimization (3) Prerequisite: MAT 435

14MAT 465 Applied Probability (3) Prerequisites: MAT 261 and STT 315

15 STT Choose one of the following: STT 305, 411, 412.

16 Choose 9 hours of MAT or STT at the 300-400 level.

1. **PHY 201** is highly recommended as the University Studies Scientific Approaches requirement

2. Students interested in the degree program in MAT are encouraged to begin with MAT 161. Initial placement is based on high school background and the MAT Placement Test. Students not prepared for MAT 161 should begin with MAT 115 or 111-112, as appropriate.


**NOTE:** It is strongly recommended that a student either complete a minor in a discipline that applies mathematics or elect advanced coursework involving mathematical applications in another discipline. A list of recommended courses in biology, chemistry, computer science, earth sciences, economics, information systems and operations management, physics, psychology, sociology, and statistics is available in the department office. For the teacher licensure option, the licensure requirements fulfill this recommendation. A student who plans to pursue graduate study is urged to take MAT 411-412.

**NOTE:** MAT 495 (Seminar in Mathematics) or MAT 499 (Honors Work in Mathematics) meet the Applied Learning Requirement.

An overall average of “C” (2.00) or better is required for all 300-400 level MAT or STT courses counted toward the major.

*These courses require a lab

+May also be used to satisfy University Studies Foundations & Approaches and Perspectives requirements

**Requirements to declare MAT:** Completion of 24 hours

For further information, see the MAT website: [http://www.uncw.edu/math](http://www.uncw.edu/math) and [http://catalogue.uncw.edu](http://catalogue.uncw.edu).

This document is considered an unofficial guide. Please refer to your degree audit for the latest updates.

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