Transfer QuickGuide

Mathematical Decision Sciences (MDS) at UNC

Are you a transfer student interested in majoring in MDS while at UNC Chapel Hill? Here are a few helpful tips:

General information about the MDS Program
(UNC-Chapel Hill Undergraduate Bulletin, 2016)
The major in mathematical decision sciences is an excellent program for students interested in actuarial science, operations research, probability, or statistics, as well as in fields such as business, economics, planning, psychology, and biomedicine where the decision and statistical sciences play an increasingly important role. Students who enjoy data analysis and problem solving will greatly enjoy this major.

Careers and Skills // A major in MDS will prepare you for a variety of careers. Some particular areas include:

Statistics: Probability and statistics are two of the most frequently applied areas in the mathematical decision sciences. Students in this area study the mathematical theories of probability and statistics and their application to mathematical models that contain an element of uncertainty or randomness. Opportunities for employment are manifold in businesses and government agencies dealing with many branches of the natural and social sciences, including pharmacology, environmental sciences, and others.

Operations Research: In this area, students study mathematical and statistical techniques related to decision-making. This branch of the mathematical decision sciences is crucial in business, government, and other management areas where difficult problems that depend on large amounts of data are addressed (for example, complex airline route schedules). In addition to their major courses, students interested in this field are encouraged to take courses in business and economics.

Actuarial Science: Actuaries are mathematicians who work primarily in businesses that involve financial risk, including the insurance industry. Students interested in this field take advanced courses in statistics, stochastic processes, and the mathematical theory of risk.
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Major Requirements // If you plan to transfer with junior status and graduate with an MDS BS after transferring to UNC, these are courses that we recommend be completed prior to transfer.

☐ MATH 231 – Calculus I
☐ MATH 232 – Calculus II
☐ MATH 233 – Calculus III
☐ STOR 155 – Introduction to Data Analysis

In addition to the previously mentioned courses, you will need to complete the following courses by the time you graduate from UNC.

☐ STOR 215 – Foundations of Decision Sciences
☐ COMP 116 – Introduction to Scientific Programming
☐ STOR 415 – Introduction to Optimization
☐ STOR 435 – Introduction to Probability
☐ STOR 445 – Stochastic Modeling
☐ STOR 455 – Methods of Data Analysis
☐ MATH 547 – Linear Algebra for Applications
☐ Five (5) additional MDS electives from Group A and B (see Undergraduate Bulletin)

Why major in MDS at UNC?
You might consider majoring in MDS if you are interested in:

☐ Analyzing data, especially in the statistical/probabilistic models and methods underlying data analysis;
☐ Analytics, especially with business applications in mind and would like to have a more profound understanding of the mathematical techniques involved;
☐ Actuarial science and, more broadly, risk management, and would like to pursue a career in the insurance or/and financial industries.

MDS is the only major at UNC that focuses on data analysis (statistics), analytics (operation research) and, if a student wishes, actuarial science. Because these fields are useful in a variety of contexts, many MDS students double major or have minors in other programs. For example, MDS students interested in analyzing data naturally seek expanding coding, database management and related skills, and would often pair MDS major with Computer Science major/minor. MDS students interested in analytics would often pursue studies in Business or Economics programs as well. MDS students interested in graduate school would seek to take more advanced courses in Mathematics. The MDS major at UNC naturally compliments many other areas of study and opens the door to work in a variety of careers.
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Why major in MDS at UNC?
“Majoring in MDS has opened so many opportunities for me. I had the opportunity to choose between two different internships for this coming summer! I also know that I will always be able to find a job wherever I am.” — Graduating MDS major, 2016

Important Links
If you are a prospective transfer student and have additional questions about majoring in MDS at UNC, please refer to one of the links below or contact the UNC admissions office (admissions.unc.edu/contact-us/).

MDS Department Homepage: stat-or.unc.edu/
Undergraduate Bulletin: unc.edu/ugradbulletin/depts/stat.html
Resources for Student Success: studentsuccess.unc.edu
Transfer Resources: transfers.unc.edu
Summer School at UNC: summer.unc.edu
What Can I Do with This Major? careers.unc.edu/students/exploring-majors-and-careers
Will my courses transfer? admissions.unc.edu/credit/credit/transfer-equivalencies/

You can also connect with the MDS Department on Facebook (UNC-Chapel Hill Department of Statistics & Operations Research) online at stat-or.unc.edu, or, after you matriculate to UNC, with the department’s Director of Undergraduate Studies via email at pipiras@email.unc.edu for Vladas Pipiras.