Statistics MS Data Science (MS-DS) Option Regulations

These regulations are effective for students entering the program in fall 2016 or later.
The objective of the Statistics MS Data Science (MS-DS) Option is to train candidates having
the potential to be a practicing data scientist or statistician.

The MS-DS program is intended for three types of students:

- **MS-DS for VISP students**: Students from the Visiting International Student Program
  (Stat VISP or Math VISP) who have completed some degree requirements at UW-Madison as VISP undergraduates. They may request transfer of up to 15 credits from
  their VISP coursework, typically Stat 601-602 and 609-610.

- **MS-DS for workforce students**: Students coming with 5 or more years in the workforce
  who have worked extensively with data, and are seeking a well-rounded training. Some
  students may be part-time students (6-8 credits per semester) if they remain in the
  workforce.

- **MS-DS for other general students**: Students who have BS degrees or expected
  to obtain BS degrees prior to the first semester as MS-DS students.

**Note:**

- All three types of students will be admitted by the Department of Statistics through an
  online application process.
- MS-DS students are self-supported, i.e., they pay appropriate tuition during the time of
  their study.
- MS-DS students are not allowed to be employed as an RA, PA, TA, or any other position
  at UW-Madison that leads to tuition remission. If a student is found to have such a
  position, s/he will be immediately removed from the MS-DS program.

**Prerequisites for the MS-DS**

- Stat 327: Data Analysis with R (2-3 credits)
- Math 340: Matrix & Linear Algebra (3 credits)
- Math 221, 222, and 234: Calculus (15 credits)
- Math 421 Single Variable Calculus (3 credits)
- Stat 309-310: Introduction to Probability and Mathematical Statistics (6-8 credits; this is
  highly recommended but not required)
  These courses can be substituted by courses taken in other universities.
- BS degree prior to the first semester as MS-DS students.
- Language requirement set by the Graduate School for international students. This
  requirement is waived if students have completed at least two full-time semesters of
  graded course work, exclusive of English as second language courses, in a U.S. college
  or university, or at an institution outside the U.S. where English is the exclusive language
  of instruction.

**Requirements for the MS-DS**

- Satisfaction of University requirements.
• Adequate course performance (see Criteria for Satisfactory Progress). All students must obtain a grade of B or higher in every course used to satisfy the MS-DS degree requirement.
• Course requirements:
  • Four required courses (15 credits):
    Stat 601 Statistical Methods I (4 credits)
    Stat 602 Statistical Methods II (4 credits)
    Stat 609 Mathematical Statistics I (3 credits)
    Stat 610 Introduction to Statistical Inference (4 credits)
  • Four to six credits from
    Stat 627 Professional Skills in Data Science (2 credits)
    Stat 628 Data Science Practicum (2 credits)
    or EPD professional competency courses.
    or other courses approved by the MS-DS program.
  • 11 or more elective credits from courses listed below, 6 of which must be from courses numbered above 610.

  • Stat 349 Introduction to Time Series
  • Stat 351 Introductory Nonparametric Statistics
  • Stat 411 An Introduction to Sample Survey Theory and Methods
  • Stat 421 Applied Categorical Data Analysis
  • Stat 456 Applied Multivariate Analysis
  • Stat 461 Financial Statistics
  • Stat 471 Introduction to Computational Statistics
  • Stat 479 Special Topics in Statistics (may be repeat with different titles)
  • Stat 575 Statistical Methods for Spatial Data
  • Other statistics courses numbered above 610.
  • Other courses as approved by the MS-DS program

See our web-page on How to Apply to MS-DS.

Graduate School Higher Learning Commission Requirements
• A Master’s degree requires 30 credits (not including audits or pass/fail). [Minimum Graduate Credit Requirement]
• At least 16 of these credits must be taken in-residence at UW-Madison. [Minimum Graduate Residence Credit Requirement]
• Half of the degree course work (15 credits out of 30 total credits) must be completed in Statistics courses numbered 600 or higher (which our department considers to be graduate courses). [Minimum Graduate Course Work (50%) Requirement]
• With program approval, students are allowed to count no more than 9 credits of graduate course work from other institutions toward the graduate degree credit and graduate course work (50%) requirements. Course work earned five or more years prior to admission to a master’s degree is not allowed to satisfy requirements. [Prior Course Work Requirement]
• With program approval, up to 6 statistics credits from a UW-Madison undergraduate degree at the 600 level or above are allowed to count toward minimum graduate degree credits. Course work earned five or more years prior to admission to a master’s degree is not allowed to satisfy requirements. [Prior Course Work Requirement]

• With program approval, and payment of the difference between special graduate tuition, up to 15 statistics credits completed at UW-Madison while a University Special Student at the 300 level or above are allowed to count toward minimum graduate degree and graduate residence credit requirements. Of these credits, those at the 700-level or above may also count toward the minimum graduate course work (50%) requirement. Course work earned five or more years prior to admission to master’s degree is not allowed to satisfy requirements. [Prior Course Work Requirement]