

Data Science (MS) - IN PERSON

The Master of Science in Data Science prepares students for careers in a variety of industries in Data Science, Data Analytics, and related fields, as well as preparation for PhD programs in Data Science.

This degree is intended for students with undergraduate degrees from a variety of backgrounds:

- mathematically-intense fields such as Statistics, Engineering, Mathematics, and Computer Science,
- data-related fields such as Business, Health, Psychology, and the Sciences, whose interest is understanding how data is used for decision-making,
- any other field where students have an interest in data science careers.

ADMISSION REQUIREMENTS

To be considered for admission, students must::

- Complete an application for Graduate Studies.
- Hold a baccalaureate degree from an accredited institution. Current Truman students may apply for admission to the 4+1 program (see below).
- Have a cumulative grade point average of 3.00 or higher. Consideration is given to students with substantial professional experience after earning their baccalaureate degree.
- Submit a short statement of purpose explaining their background and their interest in this program.
- Before enrolling in full-time graduate coursework, students must complete the equivalent of each of these classes (Truman offers all three courses in person and online):
 - **MATH 198 - Calculus I,**
 - **STAT 190 - Basic Statistics,** and
 - **CS 170 - Introduction to Computer Science**

Students with equivalent workplace or self-taught knowledge and experience for one or more courses should talk to the Program Director about a potential waiver.

- For international students, complete additional graduate school documentation, including demonstration of English proficiency and visa status.
- Submit an official (preferred) or unofficial copy of undergraduate and/or graduate transcripts at the time of application. Students may not enroll beyond their first semester without providing an official transcript with baccalaureate degree noted. Transcripts not in English must be accompanied by a certified translation.
- Assessment and enforcement of student qualifications shall be at the discretion of the Dean of the School of Science and Mathematics or their designee.

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GRADUATION REQUIREMENTS

Students must earn a 3.0 GPA or higher in graduate coursework applied to the degree program.

A graduate student may repeat one course in which a “C”, “D”, or “F” was received. When a course is repeated, both grades remain on the record and both grades are used in determining the grade point average.

Students must complete all of the courses in the program within six years of the date of admission or matriculation in the first course, whichever comes later. Students may petition the Dean of the School of Science and Mathematics or his/her designee for a leave of absence, or an extension, should extenuating circumstances warrant.

COMBINED ACCELERATED 4+1 PROGRAM

Current Truman students who have successfully completed certain undergraduate coursework at a high level of success may apply for the accelerated 4+1 program, which allows some graduate courses to be simultaneously included in both the undergraduate and graduate degree requirements, including the allowance of up to 12 graduate hours to be counted towards the 120 total credits and/or the 30 required credits of upper-division (300+) coursework required for a Bachelor's Degree. Some undergraduate courses give placement into higher-level Data Science coursework, but do not include graduate credit towards the Master's Degree.

Truman undergraduate students wishing to enroll in the accelerated 4+1 Program must apply to the program and be admitted as provisional graduate students. This may happen as early as the end of the sophomore year.

Admission requirements include:

- An overall undergraduate GPA of at least 3.0 or at least 3 years of relevant work experience.
- Students are asked to submit a short statement of purpose explaining their background and their interest in the program.
- Completion of STAT 190/290, CS 170/180, MATH 198, STAT 250, and DATA 222 with an average GPA of 3.0 in these classes.
- or permission of the program director and department chair.

Students interested in the Accelerated 4+1 program are encouraged to talk to the Data Science Program Director, the chair of the Computer and Data Sciences Department, and/or their undergraduate advisor early in their career.

ASSISTANTSHIPS

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None available at this time.

DEGREE REQUIREMENTS: 30 - 36 graduate credits

Required Support: Up to 6 credit hours

Waived for students with appropriate undergraduate coursework

STAT 530G - Applied Statistical Methods I Credits: 3

(STAT 530 is a prerequisite for STAT 535G)

MATH 525G - Math for Data Science Credits: 3

(MATH 525 is a prerequisite for DATA 520G)

Core Coursework: 21 credit hours

PDAT 610G - Introduction to Data Science Credits: 3

PDAT 611G - Big Data Management Credits: 3

PDAT 615G - Machine Learning Credits: 3

PDAT 624G - Principles of Design in Data Visualization Credits: 3

PDAT 625G - Ethics and Data Security Credits: 3

DATA 520G - Data Mining and Multivariate Statistics Credits: 3

STAT 535G - Applied Statistical Methods II Credits: 3

Capstone Experience : 3 credit hours or more

DATA 697G - Capstone Portfolio for Data Science (*new course*) Credits 3 OR

PDAT 630G - Data Science Thesis Credits: 3

Electives: 6 or more graduate credits from STAT, DATA, MATH, PDAT, or CS

Electives should be chosen in consultation with their graduate advisors. With permission of the program director, up to 3 credits from other graduate subject areas may be included.

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Note:

Students in the 4+1 accelerated program and others with appropriate undergraduate data science coursework may substitute an additional graduate elective to replace the following:

PDAT 610G fulfilled by completion of both STAT 250 - Statistical Computing AND
DATA 222 - Fundamentals of Data Science

MATH 525G MATH 525G fulfilled by completion of both MATH 263 Calculus III AND
MATH 357 Linear Algebra

PDAT 624G fulfilled by DATA 324 - Data Visualization

Regardless of placement, all graduate students must complete at least 30 hours of graduate coursework.

Total Hours: 30-36