

# MASTER OF SCIENCE IN DATA SCIENCE

Building on the existing strengths in the Departments of Computer Science and Engineering, Electrical and Computer Engineering, Mathematics, and Statistics within the University's Colleges of Engineering and College of Arts and Sciences; the Master of Science in Data Science provides a multidisciplinary data science degree. Curriculum core courses include Mathematical Foundations for Data Science, Statistical Foundations for Data Science, Data Mining and Analysis, and Databases and Computational Tools Used in Big Data. The multidisciplinary curriculum provides students with a solid foundation in mathematics, statistics, computer science, and machine learning.

This program prepares a student for a variety of career options associated with data science; including consulting agencies, financial services firms, government agencies, healthcare and pharmaceutical companies, marketing services, private commercial corporations, and technology companies. The Department of Statistics is the academic administrative home of the program, and Texas A&M Institute of Data Science (TAMIDS) coordinates the joint governance of the degree by the participating departments. For more information, visit the Master of Science in Data Science webpage (<https://tamids.tamu.edu/msds/>).

## Program Requirements

### Program Requirements

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### Student's Advisory Committee

After receiving admission to graduate studies and enrolling for coursework, the student will consult with the head of his or her major or administrative department (or intercollegiate faculty, if applicable) concerning appointment of the chair of his or her advisory committee. The student's advisory committee for the MS degree will consist of a committee chair. The chair of the advisory committee must be from the student's major department. If the chair of a student's advisory committee voluntarily leaves the University and the student is near completion of the degree and wants the chair to continue to serve in this role, the student is responsible for securing a current member of the University Graduate Faculty, from the student's academic program and located near the Texas A&M University campus site, to serve as the co-chair of the committee. The Department Head or Chair of Intercollegiate faculty may request in writing to the Associate Provost and Dean of the Graduate and Professional School that a faculty member who is on an approved leave of absence or has voluntarily separated from the university, be allowed to continue to serve in the role of chair of a student's advisory committee without a co-chair for up to one year. The students should be near completion of the degree. Extensions beyond the one year period can be granted with additional approval of the Dean.

If the chair of the student's advisory committee is unavailable for an extended time in any academic period during which the student is

involved in activities relating to an internship, thesis or professional paper, and is registered for courses such as 684, 691, 692 or 693, the student may request, in writing, that the department head appoint an alternate advisory committee chair during the interim period.

The duties of the committee chair include responsibility for the proposed degree plan and the final presentation. In addition, the committee chair is responsible for advising the student on academic matters, and, in the case of academic deficiency, initiating recommendations to the Graduate and Professional School.

The committee chair's approval on the degree plan indicates the chair's willingness to accept the responsibility for guiding and directing the entire academic program of the student and for initiating all academic actions concerning the student.

### Degree Plan

The student's advisory committee, in consultation with the student, will develop the proposed degree plan. The degree plan must be completed and filed with the Graduate and Professional School prior to the deadline imposed by the student's college or interdisciplinary degree program, if applicable, and no later than 90 days prior to the date of the final oral examination or thesis defense.

A student should submit the degree plan using the online Document Processing Submission System.

A student submitting a proposed degree plan for a Master of Science degree should designate on the official degree plan the appropriate program option.

Additional coursework may be added to the approved degree plan by petition if it is deemed necessary by the advisory committee to correct deficiencies in the student's academic preparation. No changes can be made to the degree plan once the student's Request for Final Examination or Request for Final Examination Exemption is approved by the Graduate and Professional School.

### Credit Requirement

Master of Science in Data Science, comprising 30 credit hours over one and half years, is an interdisciplinary degree placed at the University level on the Program Inventory. Tracks will be offered by each of the four participating departments: STAT, ECEN, CSCE, and MATH. Students need to take 4 required core courses and 6 elective courses.

### Transfer of Credit

A student who has earned 12 hours of graduate credit in residence at Texas A&M University may be authorized to transfer courses in excess of the limits prescribed below upon the advice of the advisory committee and with the approval of the Graduate and Professional School. Courses taken in residence at an accredited U.S. institution or approved international institution with a final grade of B or greater may be considered for transfer credit if, at the time the courses were completed, the courses would be accepted for credit toward a similar degree for a student in degree-seeking status at the host institution. Otherwise, the limitations stated in the following section apply. Coursework in which no formal grades are given or in which grades other than letter grades (A or B) are earned (for example, CR, P, S, U, H, etc.) is not accepted for transfer credit. Courses appearing on the degree plan with grades of D, F or U may not be absolved by transfer work. Credit for thesis research or the equivalent is not transferable. Credit for coursework submitted for transfer from any college or university must be shown in semester credit hours or equated to semester credit hours. An official transcript from

the university at which the transfer coursework was taken must be sent directly to the Office of Admissions.

Courses used toward a degree at another institution may not be applied for graduate credit. If the course to be transferred was taken prior to the conferral of a degree at the transfer institution, a letter from the registrar at that institution stating that the course was not applied for credit toward the degree must be submitted to the Graduate and Professional School.

Grades for courses completed at other institutions are not included in computing the GPA.

## Limitations on the Use of Transfer, Extension, and Certain Other Courses

Some departments may have more restrictive requirements for transfer work. If otherwise acceptable, certain courses may be used toward meeting credit-hour requirements for the master's degree under the following limitations.

1. The maximum number of credit hours which may be considered for transfer credit is the greater of 12 hours or one-third (1/3) of the total hours of a degree plan. The following restrictions apply:
  - Graduate and/or upper-level undergraduate courses taken in residence at an accredited U.S. institution, or approved international institution with a final grade of B or greater will be considered for transfer credit if, at the time the courses were completed, the student was in degree-seeking status at Texas A&M University, or the student was in degree-seeking status at the institution at which the courses were taken; and if the courses would be accepted for credit toward a similar degree for a student in degree-seeking status at the host institution.
  - Courses previously used for another degree are not acceptable for degree plan credit.
2. The maximum number of credit hours taken in post-baccalaureate non-degree (G6) classification at Texas A&M University which may be considered for application to the degree plan is 12.
3. A zero credit 684 or 685 course is only allowed for non-thesis option master's students. A zero credit 681 course can be used for either thesis or non-thesis option master's students. Other courses, including 691 (Research) hours, are not eligible for zero credit.
4. Not more than 12 hours may be used in any combination of the following categories:
  - Not more than 8 hours in the combination of 691 (Research), 684 (Professional Internship), or SOPH may be used. Under normal circumstances, non-thesis masters students may not use 691 hours on their degree plan. However, for non-thesis masters students who are using 691 hours on the degree plan, see the Non-Thesis Option section on the Program Requirements page in the graduate catalog for the degree they are pursuing.
  - Not more than 8 hours of 685 (Directed Studies) may be used.
  - Not more than 3 hours of 690 (Theory of Research) may be used.
  - Not more than 3 hours of 695 (Frontiers in Research) may be used.
5. A maximum of 2 hours of 681 (Seminar).
6. A maximum of 9 hours of advanced undergraduate courses (300- or 400-level).
7. For graduate courses of three weeks' duration or less, taken at other institutions, up to 1 hour of credit may be obtained for each five-day

week of coursework. Each week of coursework must include at least 15 contact hours.

8. Continuing education courses may not be used for graduate credit.
9. Extension courses are not acceptable for credit.
10. For non-distance degree programs, no more than 50 percent of the non-research coursework required for the program may be completed through distance education courses.
11. To receive a graduate degree from Texas A&M University, students must earn one-third or more of the credits through the institution's own direct instruction. This limitation also applies to joint degree programs.

Exceptions will be permitted only in unusual cases and when petitioned by the student's advisory committee and approved by the Graduate and Professional School.

## Final Examination

For non-thesis option students, a final comprehensive examination is not required.

A student pursuing the non-thesis option is not allowed to enroll in 691 (Research) for any reason and 691 may not be used for credit toward a non-thesis option Master of Science degree. A maximum of 4 credit hours of 684 (Professional Internship), 8 credit hours of 685 (Directed Studies), and up to 3 credit hours of 690 (Theory of Research) or 695 (Frontiers in Research) may be used toward the non-thesis option Master of Science degree. In addition, any combination of 684, 685, 690 and 695 may not exceed 25 percent of the total credit hour requirement shown on the individual degree plan. All requirements for the non-thesis option Master of Science degree other than those specified above are the same as for the thesis option degree.

The department head or the chair of an intercollegiate faculty (if appropriate) for the program may approve an exception for a PhD student who changes to a non-thesis option MS degree program after at least one year of PhD studies to use 691 credits toward a non-thesis option Master of Science degree. The department head or chair of an intercollegiate faculty (if appropriate) for the program may approve an exception for a master's student who changes from a MS thesis option degree to a MS non-thesis option degree program to use 691 credits toward a non-thesis option Master of Science degree. In both cases, the student is allowed to use a maximum of 8 credit hours of 685 and 691 combined. Departments, Colleges, and Interdisciplinary Degree Programs may opt to establish higher standards. Further any combination of 684, 685, 690, 691 and 695 may not exceed 25 percent of the total credit hour requirement shown on the individual degree plan. All requirements for the non-thesis option Master of Science degree other than those specified above are the same as for the thesis option degree.

## Additional Requirements

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## Residence

In partial fulfillment of the residence requirement for the degree of Master of Science, the student must complete 9 resident credit hours during one regular semester or one 10-week summer semester in resident study at Texas A&M University. A minimum of 1 credit hour must be in a non-distance education delivery mode. Semesters during which the student is enrolled in all distance education coursework will not count toward fulfillment of the residence requirement. Upon recommendation of the student's advisory committee, department head or Chair of the Interdisciplinary Program, if appropriate, and with approval of the Graduate and Professional School, a student may be granted exemption from this requirement. Such a petition, however, must be approved prior to the student's registration for the final 9 credit hours of required coursework.

Students who are employed full-time while completing their degree may fulfill total residence requirements by completion of less-than-full time course loads each semester. In order to be considered for this, students are required to submit a Petition for Waivers and Exceptions along with verification of their employment to the Graduate and Professional School.

See Residence Requirements (<http://catalog.tamu.edu/graduate/academic-expectations-general-degree-requirements/#degreerequirementstext>).

## Continuous Registration

A student in the thesis option of the Master of Science program who has completed all coursework on his/her degree plan other than 691 (Research) is required to be in continuous registration until all requirements for the degree have been completed.

See Continuous Registration Requirements (<http://catalog.tamu.edu/graduate/academic-expectations-general-degree-requirements/#registrationandacademicstatustext>).

## Time Limit

All degree requirements must be completed within a period of seven consecutive years for the degree to be granted. A course will be considered valid until seven years after the end of the semester in which it is taken. Graduate credit for coursework which is more than seven calendar years old at the time of the final examination (oral or written) may not be used to satisfy degree requirements.

## Foreign Languages

No specific language requirement exists for the Master of Science degree.

## Application for Degree

For information on applying for your degree, please visit the Graduation (<http://catalog.tamu.edu/graduate/academic-expectations-general-degree-requirements/#degreerequirementstext>) section.