Graduate Certificate in Data Science

The Graduate Certificate in Data Science (DS) requires 4 graduate-level courses and is designed to offer the state-of-the-art Data Science training to a wide range of students who are currently pursuing graduate training in a discipline that is outside EECS or those that are seeking post-baccalaureate training to enhance their skill in Data Science, examples include Masters and Ph.D. students working on computational physics, computational chemistry, quantitative genetics, geoinformatics, or environmental modeling.

Standard Admission Requirements for all Graduate Programs

- All applicants must meet the requirements outlined in the Admission to Graduate Study (https://policy.ku.edu/graduate-studies/admission-to-graduate-study/) policy.
- Bachelor's degree: A copy of official transcripts showing proof of a bachelor's degree (and any post-bachelor's coursework or degrees) from a regionally accredited institution, or a foreign university with equivalent bachelor's degree requirements is required.
- English proficiency: Proof of English proficiency (https://gradapply.ku.edu/english-requirements/) for non-native or non-native-like English speakers is required. There are two bands of English proficiency, including Admission and Full proficiency. For applicants to online programs, Full proficiency is required.

Graduate Program Admission to the Department of Electrical Engineering and Computer Science

Requirements for EECS students entering the program are courses in (a) EECS 268: programming II or experience with object oriented programming and large programs, and (b) MATH 290: linear algebra or equivalent, and (c) MATH 526 or EECS 461: applied mathematical statistics or equivalent; or consent from the instructor.

The target students of this graduate certificate, outside the EECS students, are Lawrence campus graduate students doing research directly related to data science. Examples include Masters and Ph.D. students working on computational physics, computational chemistry, quantitative genetics, geoinformatics, or environmental modeling. The program highly considers those who have strong quantitative training (math and statistics), have some programming experience and prior exposure of large programs through research.

Applicants must complete an application to Graduate Studies (http://graduate.ku.edu/ku-graduate-application/) for admission into the certificate program and submit an application fee along with the following materials:

- Copy of Official Transcripts
- Statement of Purpose
- Resume
- Three Letters of Recommendation

*Unless the applicant's native language is English or the applicant has received a baccalaureate degree or higher from an accredited U.S.

institution of higher education, he or she must meet the department's standard for the Test of English as a Foreign Language (TOEFL).

Program Requirements

The Data Science Certificate requires the completion of one core course and three elective courses (from the specified list), total of four (4) courses with a minimum of eleven (11) credit hours.

Code	Title	Hours
Core Course		
EECS 835	Advanced Data Science	3
Elective Courses: (3 courses, minimum of 8 credit hours required)		**8-9**
EECS 836	Machine Learning	
EECS 746	Database Systems	
or EECS 767	Information Retrieval	
EECS 841	Computer Vision	
or EECS 730	Introduction to Bioinformatics	
STAT 840	Linear Regression	
or STAT 871	Mathematical Statistics	
or MATH 728	Statistical Theory	
Total Hours		**11-12**

*No credits may be transferred from another institution for this certificate.

*A grade of C or higher must be earned in each course.

The completion requirements of the graduate certificate in data science include: (a) students must have a GPA of 3.0 or better on the required courses; (b) The minimum grade for any course to be applied toward the certificate is a grade of C; and (c) no credits may be transferred from another institution for this certificate.

At the completion of this program, students will be able to:

- Demonstrate advanced knowledge of theories and methods and apply them to solve problems in data science.
- Demonstrate in-depth knowledge in sub-areas of data science.
- Document and communicate a compelling, focused, and logical technical argument in writing and orally.