

Graduate Certificate in Applied Machine Learning for Chemists and Engineers

The Applied Machine Learning for Chemists and Engineers certificate is housed in the Department of Chemical and Petroleum Engineering (C&PE) and is focused on interdisciplinary coursework and research. The core departments are C&PE, Chemistry, and EECS (Electrical Engineering and Computer Science) but students from other departments may apply. The certificate trains graduate students on interdisciplinary skills and competencies in machine learning to pursue a wide range of careers. Students will learn to work on collaborative and interdisciplinary machine learning projects through research and coursework which will provide a competitive edge when applying to jobs after graduation. Students complete four courses: two core courses, one research course, and one data science course (10 total credits) which can align with their M.S./Ph.D. electives to minimize additional coursework requirements.

Students must be eligible for graduate standing at the University of Kansas (certificate, degree, or non-degree seeking). All applications require a copy of your resume/C.V. and a brief, one-page statement of purpose.

Currently enrolled Department of Chemical and Petroleum Engineering graduate students: email Graduate Program Coordinator cpeGrad@ku.edu and nrt@ku.edu with the above documents to be enrolled in the certificate.

Current KU graduate students: apply at https://gograd.ku.edu/register/current_ku_certificate (https://gograd.ku.edu/register/current_ku_certificate/). The application should be no cost.

Certificate-seeking only applicants (not currently enrolled at KU): apply at gradapply.ku.edu/apply with the above documents and contact information for one professional reference.

Deadlines

This program admits students on a rolling basis. Applications can be accepted two-week in advance of semester start in Spring, Summer, and Fall.

Students complete four courses: two core courses, one research course, and one data science course.

Core Courses

Code	Title	Hours
C&PE 715	Topics in Chemical and Petroleum Engineering: _____ (Applied Machine Learning for Scientists and Engineers)	3
C&PE 802	CEBC Colloquium	1
Total Hours		4

Choose One (3 cr hour) Research Course:

Code	Title	Hours
C&PE 803	Research	1-6
or C&PE 904	Research	
CHEM 800	Research	1-10
or CHEM 899	Master's Thesis	
or CHEM 900	Advanced Research	
or CHEM 999	Doctoral Dissertation	
EECS 891	Graduate Problems	1-5
or EECS 899	Master's Thesis or Report	
or EECS 998	Post-Master's Research	
or EECS 999	Doctoral Dissertation	

Choose One (3 cr hour) Data Science Course:

Code	Title	Hours
C&PE 778	Applied Optimization Methods	3
CHEM 914	Computational Methods in Physical Sciences	3
EECS 649	Introduction to Artificial Intelligence	3
EECS 835	Advanced Data Science	3
EECS 836	Machine Learning	3
EECS 767	Information Retrieval	3