

Engineering Data Science Certificate Path to MEng Data Science

Engineering Data Science Certificate Requirements:

4 technical core courses (12 credits)

Technical Core Courses (12 credits)

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|-------------|----------------------------------------------|
| 1. CSE 5713 | Data Mining |
| 2. CSE 5717 | Engineering Big Data |
| 3. CSE 5520 | Data Visualization and Communication |
| 4. CSE 5820 | Artificial Intelligence and Machine Learning |

MEng in Data Science Requirements

MEng Requirements: 4 MEng core courses (includes capstone project) + 4 Data Science core courses + 2 elective courses (30 credits)

MEng Core Courses (12 credits)

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|--------------|-------------------------------------------------------|
| 1. ENGR 5311 | Professional Communication and Information Management |
| 2. ENGR 5312 | Engineering Project Planning and Management |
| 3. ENGR 5314 | Advanced Engineering Mathematics |
| 4. ENGR 5315 | MEng Capstone Project |

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Data Science Core Courses (12 credits)

All 4 Engineering Data Science technical core courses would transfer from the certificate for credit as the 4 required Data Science core courses for MEng.

Additional MEng Requirements: The 2 remaining technical elective courses (6 credits) may be filled by the following CSE, ECE, ME or SE courses:

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|-------------|-----------------------------------------------------|
| CSE 5500 | Algorithms |
| CSE 5850 | Information and Data Security |
| ECE 6141 | Neural Networks for Classification and Optimization |
| ECE 6437 | Computational Methods for Optimization |
| ME 5511 | Principles of Optimum Design |
| ME 5895 | AI for Design and Manufacturing |
| ME 5895 | Computational Nanomechanics |
| SE 5702 | Data Science for Materials and Manufacturing |
| SE 5402 | Architecture of Internet of Things |
| CSE/SE 5095 | Machine Learning for Physical Sciences & Systems |

MEng in Data Science Requirements

- If a student wishes to also earn, or shift to, the MEng in Data Science degree, she/he must submit an official MEng application. Admission will be based on the normal requirements for MEng applicants, including a GPA, for courses taken during the certificate program, of 3.0 or higher
- Once admitted, the student will need to take two additional engineering courses either on the preapproved list of technical electives, or approved by the students MEng advisor. The students will need to also take the MEng program core courses in order to graduate.

