USC Viterbi School of Engineering

Fall 2025 Course Recommendations for Astani MS Students

General Reminders

- A minimum of a 3.0 GPA must be maintained to be in good academic standing and to be eligible to graduate
- Most courses are 2-unit or 4-units. Occasionally a 3-unit course exists as an elective option. Taking a 3-unit class can result in a student needing to take more than the minimum number of units needed to graduate.
- At least two-thirds of your coursework must be at the 500-level or higher.
    - For Progressive Degree Program (PDP) students, all coursework must be 500-level or higher. No 400-level courses will count toward your degree.

This is not a comprehensive list of requirements.
Review the USC Catalogue for Official Degree Requirements

Students working full-time should only enroll in 4 units. Please reach out to your advisor on the Advise USC platform if you have any additional questions.

Please direct advisor questions to on the Advise USC platform. Due to the high number of requests at this time, it may take up to 3 business days to receive a response.

MS Sustainable Engineering
28 Unit Minimum

Please enroll in the required courses unless you have completed them in a prior semester. If required courses have been completed, please enroll in the appropriate number of electives to reach the 8 units required to maintain full-time enrollment.

Please Enroll

- ENE 505: Energy and the Environment (4 Units)
- ISE 576: Industrial Ecology (4 Units)

Choose at least two classes (at least 7 units total) in a selected Emphasis A, B, or C. Choose remaining credits from any emphasis or non-emphasis category

Emphasis A

- AME 513a: Fundamentals and Applications of combustion (4 Units)
- CHE 510: Energy and Process Efficiency (4 Units)
- EE 443: Introduction to Probability and Statistics for Electrical Engineering and Computer Science (4 Units)
- EE 444: Power Systems Technology (4 Units)
- MASC 570: Introduction to Photovoltaic Solar Energy Conversion (4 Units)

Emphasis B

- CE 430: Sustainable Transportation (2 Units)
- CE 469: Sustainable Design and Construction (2 Units)
- CE 521: Transportation Systems Analysis (4 Units)
- ARCH 519: Sustainability in the Environment- Infrastructures, Urban Landscapes, and Buildings (3 Units)

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Policy, Economics, Governance, and Innovation electives (Non-Emphasis)

- ISE 545: Technology Development and Implementation (3 Units)

Method Focused Electives (Non-Emphasis)

- CE 531: Quantifying Uncertainty in Civil & Environmental Engineering (2 Units)
- ISE 529: Predictive Analytics (4 Units)
- ISE 535: Data Mining (4 Units)
- ISE 562: Decision Analysis (4 Units)
- ISE 568: Machine Learning (4 Units)
- MASC 520: Mathematical Methods for Deep Learning (4 Units)