

# MCRP/MS ENGINEERING, SPECIALIZATION IN TRANSPORTATION PLANNING

College of Engineering  
Engineering Bldg. (13), Room 266  
Phone: 805.756.2131

City and Regional Planning  
Architecture & Environmental Design Bldg. (05), Room 313  
Phone: 805.756.1315  
<http://planning.calpoly.edu/>

## Academic Programs

| Program name                              | Program type           |
|---|------------------------|
| Specialization in Transportation Planning | MCRP/MS<br>Engineering |

The Transportation Planning Specialization is a joint interdisciplinary program between the College of Engineering (Civil and Environmental Engineering Department) and the College of Architecture and Environmental Design (City and Regional Planning Department). Participation in the program requires enrollment in both Colleges. Participants successfully completing the program are awarded both the MCRP and the MS in Engineering degrees, each with a Specialization in Transportation Planning.

Students come from a diversity of undergraduate backgrounds, which include professionals returning for advanced degrees. The program combines the elements of transportation planning with city and regional planning to address a need for professionals who understand the technology of transportation planning and the importance of transportation within the urban environment. The applied aspects of the curriculum enable students to integrate knowledge and skills in hands-on projects that benefit communities.

## MCRP/MS Engineering, Specialization in Transportation Planning

The major objectives of this joint program are to:

1. Demonstrate technical competency.
2. Reflect critical thinking/complex problem-solving skills.
3. Effectively communicate information on issues, problems, solutions, and impacts.
4. Demonstrate strong interpersonal and teamwork skills.
5. Integrate leadership/planning/decision-making skills.
6. Discern the impacts of technology on society and the environment.
7. Practice in accordance with ethics and responsible professional conduct.
8. Develop the appreciation of the need for life-long learning.

### Prerequisites

Applicants must have satisfactorily completed courses that cover the following or equivalent subject areas:

- CE 321 Fundamentals of Transportation Engineering and CRP 435 Transportation Theory

- COMS 101 Public Speaking
- ECON 201 Survey of Economics or ECON 222 Macroeconomics
- ENGL 148 Reasoning, Argumentation and Professional Writing or ENGL 149 Technical Writing for Engineers
- MATH 142 Calculus II
- PHYS 141 General Physics IA
- STAT 312 Statistical Methods for Engineers or STAT 321 Probability and Statistics for Engineers and Scientists

Applicants for admission are expected to:

1. Have earned a bachelor's degree from an accredited university or college,
2. Have attained a grade point average of 3.0 in last 90 units of undergraduate work,
3. Provide results of the Graduate Record Examination (GRE) Aptitude Test to the Admissions Committee (GRE requirement may be waived for Cal Poly bachelor of science graduates and applicants with superior academic records).
4. Give indications of motivation, maturity, and high standards of academic involvement through work and references (three letters required) and submission of a project or paper demonstrating writing ability,
5. Provide a current résumé.

Applicants lacking prerequisites or other background requirements for classified standing may be admitted on a conditionally classified basis, depending on the results of an individual analysis of their applications.

## Degree Requirements and Curriculum

### Core Courses

|  |   |     |
|--|---|-----|
| CE 523                                     | Transportation Systems Planning           | 4   |
| CE 528                                     | Transportation Economics and Analysis     | 4   |
| or CE 421                                  | Traffic Engineering                       |     |
| CE 591                                     | Graduate Seminar I                        | 1   |
| CRP 435                                    | Transportation Theory                     | 4   |
| CRP 501                                    | Foundations of Cities and Planning        | 4   |
| CRP 504                                    | Sustainable Communities                   | 4   |
| CRP 510                                    | Planning Theory                           | 4   |
| CRP 513                                    | Planning Research and Analysis            | 4   |
| CRP 516                                    | Demographic and Analytic Tools            | 4   |
| CRP 518                                    | Policy Development                        | 4   |
| CRP 525                                    | Plan Implementation                       | 4   |
| CRP 530                                    | Planning Agency Management                | 4   |
| CRP 535                                    | Land Use and Planning Law                 | 4   |
| CRP 552                                    | Community and Regional Planning Studio I  | 4   |
| CRP 553                                    | Project Planning and Design Studio        | 4   |
| CRP 554                                    | Community and Regional Planning Studio II | 4   |
| Advisor Approved Electives                 |   | 3-5 |
| <b>Culminating Experience (choose one)</b> |   |     |
| Select from the following:                 |   | 4-6 |
| CE 599                                     | Design Project (Thesis) (2, 2, 2)         |     |
| CRP 599                                    | Thesis (2, 2, 2)                          |     |

CRP 596 Professional Project (2, 2, 2)

CRP 556 Community and Regional Planning  
Studio III (4)

**Approved CE/ENVE Electives**

Select from the following: 20

CE 421 Traffic Engineering

CE 422 Highway Geometrics and Design

CE 423 Intelligent Transportation Systems

CE 424 Public Transportation

CE 500 Individual Study

CE 521 Highway Pavement Designs

CE 524 Pavement Performance and  
Management Systems

CE 525 Airport Planning and Design

CE 526 Transportation Safety

CE 527 Sustainable Mobility

CE 528 Transportation Economics and  
Analysis

CE 529 Modeling and Simulation in  
Transportation

CE 570 Selected Advanced Topics

CE 571 Selected Advanced Laboratory

ENVE 411 Air Pollution Control

Other advisor approved CE/ENVE courses

Total units 90