

# Transportation Studies

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Transportation is vital to our society's proper functioning, providing mobility of people, goods and services. It enables people to access job markets and participate in recreational, cultural, educational, and social activities. It adds value to products by moving them to their destination in time for their use. The transportation field also is a major contributor to the economy, as a consumer of resources and as a supplier of jobs.

Who is suited for this program?

Students whose goals are to become transportation planners, engineers, and managers who can plan, design, operate, and manage transportation systems capable of satisfying society's transportation needs.

What will I learn?

- Urban travel patterns and trends; community and land activity related to transportation study techniques including survey methods, network analysis, assignment and distribution techniques. Case studies of statewide and urban areas are examined.
- Various urban problems subject to engineering analysis, and modern techniques for their solution, including inductive and deductive mathematical methods, mathematical modeling and simulation, and decision making under uncertainty.
- Traffic laws and ordinances; regulatory measures; traffic control devices; markings, signs and signals; timing of isolated signals; timing and coordination of arterial signal systems; operational controls; flow, speed, parking; principles of transportation system management/ administration; highway lighting; and state-of-the-art surveillance and detection devices and techniques. Hands-on experience with TRAF/NETSIM and FREESIM.
- Principles of engineering economy. Cost of highway and public transportation facilities. Economic comparisons and evaluations. Financing approaches, tax allocation theory. Programming highway and public transit improvements.
- Presentation of the technological and engineering aspects of public transportation systems. Historical development of public transportation technologies. Vehicle and right-of-way characteristics, capacity and operating strategies. Public transportation system performance. Advanced public transportation systems.
- Distribution logistics emphasizing systems engineering techniques used to optimize corporate profit and customer service: transportation modes; inventory policies; warehousing and order processing; and the best logistics gross margin.

Why study Transportation Studies at NJIT?

Transportation planning in the United States is in the midst of a shift similar to that taking place in the United Kingdom, away from the singular goal of moving vehicular traffic and towards an approach that takes into consideration the communities and lands which streets, roads, and highways pass through. We need people like you to lead the way.

Prerequisites

Applicants should have a bachelor's degree from an accredited institution with some undergraduate background in economics, mathematics, probability and statistics, and computers. Students who lack an appropriate background may be admitted and required to make up deficiencies by taking a program of courses designed in consultation with graduate advisors.

Related Degree Programs

Credential relates in its entirety to NJIT MS in Transportation (<http://catalog.njit.edu/graduate/newark-college-engineering/civil-environmental/transportation-ms/>) or MS in Civil Engineering (<http://catalog.njit.edu/graduate/newark-college-engineering/civil-environmental/civil-ms/>).

Gainful Employment Disclosure

Click here (<http://www.njit.edu/graduatestudies/sites/graduatestudies/files/gainfulemployment/transportation-studies-cert-gainful-employment.html>) for the Gainful Employment Disclosure for this program

What are the Required Courses?

Code	Title	Credits
<b>Core Courses</b>		
TRAN 603	Introduction to Urban Transportation Planning	3
TRAN 650	Urban Systems Engineering	3
TRAN 752	Traffic Control	3
<b>Electives</b>		
Select one of the following:		3
TRAN 610	Transportation Economics	3

TRAN 625	Public Transportation Operations and Technology	3
TRAN 640	Distribution Logistics	3