OPNS 499-0 Independent Study (1 Unit)
Students who have established superior records and who wish to study
more in depth than what is provided in regular courses may register for
independent study with a selected instructor. Permission of the instructor
and the department is required.

OPNS 510-0 Stochastic Calculus and Control (1 Unit)
Ito Calculus, HJB equations, SDEs and their applications to performance
evaluation, dynamic control of manufacturing and service operations, and
telematics systems, heavy traffic approximations.

OPNS 516-0 Stochastic Foundations (1-4 Units)
The first part of the course covers basic concepts in probability; the
second part renewal and regenerative processes including Markov
chains; and the last part Martingales and Brownian motion. Throughout,
theoretical results are applied to the analysis of queues. Students are
expected to have some background in probability (e.g., IEMS 202-0) and
stochastic processes; no measure theory background is required.

OPNS 521-0 Foundations of Operations Management (1 Unit)
This course will introduce PhD students to the basic models used in
academic research of operations management. As such, we will survey
a broad array of “research content” (basic models and approaches in the
literature) as well as discuss the “process of conducting research” (how
to write a paper and deliver a talk).

OPNS 522-0 Queueing Networks: Models, Algorithms and Emerging
Applications (1 Unit)
Queues are everywhere; supermarket checkout, call centers,
manufacturing assembly lines, wireless networks, and multitasking
computers. Queueing theory provides a rich and useful set of
mathematical models for the analysis and design of such systems.
This course explores both theory and application of fundamental and
advanced models in this field, with three broad parts: Preliminary tools,
Novel Models and Applications.

OPNS 590-0 Research (3 Units)
Independent investigation of selected problems pertaining to thesis or
dissertation. May be repeated for credit.