

Operations Research: A Modern Discipline

Operations Research (OR) is the use of the scientific methodology in studying systems whose design or operation require human decision making— OR provides the means for making the most effective decisions.

OR practitioners have successfully solved a wide variety of real world problems - varying from the optimal design of telecommunications networks in the face of uncertain demand to the problems of production planning and scheduling, and even in the planning for an optimal deployment of armed forces during wartime.

Most importantly, new applications are continually arising, most notably in computer and telecommunication technology, in the financial and economic community, in medicine, in education, to name just a few.

Employers of Recent Graduates:

- Federal Express Corporation
- LowYfg Home Improvement
- SAS
- IBM
- Opnet Technologies, Inc.
- Odyssey Logistics & Technology
- eRAMS, Inc.
- MIT Lincoln Labs
- Texas A & M University
- Air Force Research Lab
- Epic Systems Corporation
- Johns Hopkins University
- World Bank
- Telcordia Technologies Inc.
- EPA



Operations Research Graduate Program

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Graduate Program in Operations Research



Website: <http://www.or.ncsu.edu>



OPERATIONS RESEARCH AT NCSU

The interdisciplinary nature of Operations Research is reflected in the OR Program at NC State University. The faculty of OR have their academic appointments in a number of departments in the Colleges of Engineering, Physical and Mathematical Sciences, Management, Forestry, and Textiles. Most OR courses are cross-listed with other departments and many OR students have TA and RA positions in the departments of computer science, electrical and computer engineering, industrial engineering, mathematics, and statistics.

Co-Directors

Thom Hodgson (Professor of ISE)
Negash Medhin (Professor of Math)

Program Assistant

Linda Smith

DEGREE PROGRAMS

Three advanced degrees are offered:

- ◆ **Master of Operations Research (MOR) Degree**
- ◆ **Master of Science (MSc) Degree**
- ◆ **Doctor of Philosophy (PhD) Degree**

Degrees of MS and PhD are research oriented and both require the completion of a satisfactory thesis.

Students may customize their program of study by doing research under the supervision of any of the OR faculty members.

Students admitted to the OR Program must have (or acquire) a sufficiently strong background in the following areas of Mathematics and Statistics before taking OR courses: Matrix Algebra, Calculus, Probability, and Statistical Inference.

FACULTY

The OR faculty consists of 62 members from the following disciplines:

- ◆ **Civil Engineering**
- ◆ **Computer Science**
- ◆ **Electrical & Computer Engineering**
- ◆ **Forestry**
- ◆ **Industrial & Manufacturing Engineering**
- ◆ **Management**
- ◆ **Mathematics**
- ◆ **Mechanical & Aerospace**
- ◆ **Statistics**
- ◆ **Textiles**

ADMISSION

Applications for master's degree programs are accepted from undergraduate majors in the mathematical sciences, engineering or quantitatively oriented economics and business programs. Applications for a doctoral degree program are accepted normally from holders of a master's degree from a recognized program. Students with only a Bachelor's degree but with outstanding academic records can apply directly to the PhD program.

Apply online:

<http://www.ncsu.edu/grad/future-students/>

ENVIRONMENT

Founded in 1887, North Carolina State University is the applied science and technology leader of the 16 campus University of North Carolina System, as well as one of the major land-grant universities in the nation.

The University is located in the state capital (as are five other colleges and universities). This location provides easy access to many cultural attractions and numerous recreational opportunities.



North Carolina State University, along with the nearby University of North Carolina at Chapel Hill and Duke University at Durham, are the vertices of the Research Triangle Area. This area contains the largest planned research park in the country - the 7,000 acre Research Triangle Park (RTP). RTP currently houses more than 100 research and development facilities including IBM, GlaxoSmithKline, Cisco Systems, Nortel Networks, RTI international, US EPA, National Institute of Environmental Health Sciences and Sony Ericsson.