

Who We Are:

The faculty of the Air Force Institute of Technology Operations Research Programs possess a unique combination of educational and operational backgrounds that lead to innovative and successful solutions to today's complex problems.

- Diverse research interests from DoD, Air Force and Industry yield solutions that enhance our National Defense.
- Air Force Officers and Civilian faculty, with earned PhDs from the most respected Operations Research and Industrial Engineering programs in the nation, including Boston University, Georgia Institute of Technology, Kent State University, Ohio State University, Purdue University, University of Illinois at Urbana-Champaign, University of Michigan, Virginia Polytechnic Institute and State University, and AFIT.
- Experience from all levels of the operational military—squadron command, Major Command and Joint Command staffs, and deployed operations.



Operations Research

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Air Force Institute of Technology



***Air Force
Operations Research
and Analysis***



Education:

Master of Science in Operations Research

- Application of advanced analytical methods and quantitative analysis to complex situations for better defense decision-making.
- Development and manipulation of predictive models of organizational and operational systems of people, equipment, and procedures.
- Broadly applicable - draws from engineering, management, mathematics, and psychology.
- Core requirements in:
 - Economics and Mathematics
 - Decision Analysis
 - Deterministic Operations Research
 - Simulation
 - Applied Statistics
 - Probabilistic Operations Research
- 18 month in-residence.
- Thesis research provides direct contribution to career experience and sponsor's mission.

Master of Science in Operations Analysis

- Intermediate Developmental Education for field grade officers and senior civilians selected by developmental boards.
- Blends operational and strategic focus for mid-career officers and DoD civilians.
- 12 month in-residence.
- Graduate Research Project on immediate DoD problem.
- Emphasis on the application of quantitative analysis techniques to decision-making.

Doctor of Philosophy in Operations Research

- Develops leading scholars for senior DoD, university, and industry analysis and assessment positions.
- Analytical core with flexible program that emphasizes development of cutting-edge methodology.
- 36 months in-residence when full time.
- Dissertation is original, high-impact research that addresses significant defense-related problem while expanding the field of knowledge.
- Funded assistantships with stipend may be available.

Graduate Test and Evaluation Certificate

- Five-course series in advanced applied statistics.
- Distance Learning, 16 qtr/hrs, research capstone.
- Focuses in design of experiments (DOE) and reliability, maintainability, and availability (RM&A) analysis.
- Provides head start on resident MS in Operations Research program.
- An organizationally funded program open to current DoD acquisition and analysis employees in the Test and Evaluation (T & E) Community.

Research:

- Faculty and students tackle the “Big Issues” facing the DoD and Air Force, maintaining mission focus.
- In-depth research, long term, sustainable solutions.
- Affordable! Top quality research for less; significant savings over less experienced or less educated consulting firms.
- **What we do:** Mine data for patterns, develop decision methods, simulate system behavior, exploit social networks, improve system reliability, use capacity wisely, model war.

Who we do it for: AFRL, AFOSR, MAJCOMS, Numbered Air Forces, USSTRATCOM, USTRANSCOM, USSOCOM, NASIC, NRO, DepSepDef, and more.

Consulting:

- Faculty consulting services (time permitting).
- Short term, wide ranging operational issues.
- 1-3 month “first look” consulting projects.
- 6-9 month research efforts with IDE.
- 9-15 month thesis efforts.