

ENGINEERING

Dr. Patricia F. Mead
Department Chair
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The Department of Engineering at Norfolk State University offers B.S. degrees in Electrical and Electronics Engineering and Optical Engineering and an M.S. degree in Electronics Engineering. The Department's Engineering Advisory Board is composed of national leaders from government, universities, and industry. The Advisory Board helps to set the vision for departmental initiatives.

The Department of Engineering offers its students curricula that focus on key concepts and developments in the Electrical, Electronics and Optical engineering fields.

The B.S. and M.S. degree programs provide students with exciting opportunities to conduct research at major research facilities of the university and other research laboratories, both nationally and internationally. Areas of research include biomedical engineering, carbon electronics, gaming, image processing, microelectronics, modeling and simulation, nanotechnology, high power electronics, optoelectronics, photonics, and quantum optics.

The mission of the Department of Engineering is to empower students with the knowledge, skills, and abilities needed for successful professional careers in engineering; to encourage innovation, creativity and an entrepreneurial spirit; to instill a sense of community responsibility; and to develop leaders for a technology-driven global society.

In order to provide the best possible undergraduate education, the department embraces the standards established by ABET, Inc., the sole accrediting agency for engineering programs in the United States. The Bachelor of Science degree in Electrical and Electronics Engineering at Norfolk State University is accredited by the Engineering Accreditation Commission of ABET, <https://www.abet.org> (<https://www.abet.org>), under the General Criteria and the Electrical and Electronics Engineering Program Criteria. The Bachelor of Science degree in Optical Engineering at Norfolk State University is accredited by the Engineering Accreditation Commission of ABET, <https://www.abet.org> (<https://www.abet.org>), under the General Criteria and the Optical Engineering Program Criteria.

General Department Requirements

All students must complete the University's general education requirements to qualify for the Bachelor of Science degree. Additionally, the department requires that all majors:

- meet prerequisites or their equivalents before enrolling in engineering courses;
- earn a grade of "C" or better in SEM 101 Spartan Seminar 101 and other Spartan Seminar classes, and in all English, mathematics, science and engineering courses; and,
- complete a senior design project.

Electrical and Electronics Engineering Objectives

The Norfolk State University Electrical and Electronics Engineering program faculty have identified a set of program educational objectives

that describe the expected abilities of graduates as they enter the workforce. Graduates of the Electrical and Electronics Engineering program will:

- Devise technical solutions based on sound principles in science and engineering;
- Be effective communicators of technical information within professional settings or to broader audiences;
- Be ethically responsible members of the engineering community and cognizant of societal impacts of engineering solutions; and
- Continue their professional development in business settings or through advanced degree attainment.

Optical Engineering Objectives

The Norfolk State University Optical Engineering program faculty have identified a set of program educational objectives that describe the expected abilities of graduates as they enter the workforce. Graduates of the Optical Engineering program will:

- Devise technical solutions based on sound principles in science and engineering;
- Be effective communicators of technical information within professional settings or to broader audiences;
- Be ethically responsible members of the engineering community and cognizant of societal impacts of engineering solutions; and
- Continue their professional development in business settings or through advanced degree or through advanced degree attainment.

Engineering Programs

- Bachelor of Science Electrical and Electronics Engineering (General) (<https://catalog.nsu.edu/undergraduate/science-engineering-technology/engineering/electrical-electronics-bs-general/>)
- Bachelor of Science in Electrical and Electronics Engineering (Track) (<https://catalog.nsu.edu/undergraduate/science-engineering-technology/engineering/electrical-electronics-bs-track/>)
- Bachelor of Science in Optical Engineering (<https://catalog.nsu.edu/undergraduate/science-engineering-technology/engineering/optical-bs/>)
- Minor in Biomedical Engineering (<https://catalog.nsu.edu/undergraduate/science-engineering-technology/engineering/biomedical-minor/>)
- Minor in Electrical and Electronics Engineering (<https://catalog.nsu.edu/undergraduate/science-engineering-technology/engineering/electrical-electronics-minor/>)
- Minor in Optical Engineering (<https://catalog.nsu.edu/undergraduate/science-engineering-technology/engineering/optical-minor/>)

B.S./M.S. Accelerated Program

- B.S./M.S. Accelerated Program in Electronics Engineering (<https://catalog.nsu.edu/graduate/science-engineering-technology/engineering/electronics-ms/>)

ENGINEERING FACULTY

Dr. Patricia Mead, Professor and Department Chair
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Area of Research: Engineering Educational Research, Fiber Optic & Solid State Laser Systems

Dr. M. J. Bahoura, Professor

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Area of Research: Multifunctional Thin Films, High-dielectric Materials, Nano-materials

Dr. Prathap Basappa, Professor

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Area of Research: VLSI Design, Power Electronics

Dr. Makarand Deo, Associate Professor

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Area of Research: Mathematical Modeling and Computer-aided Simulations, Computational Cardiac Engineering, Biosensor Integration

Dr. Hongzhi Guo, Assistant Professor

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Area of Research: RF/microwave circuits, Bioelectromagnetism, machine learning

Dr. Renny Fernandez, Assistant Professor

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Area of Research: Microfabrication, MEMS, Microfluidics, Biosensing

Dr. Adem Ibrahim, Professor

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Area of Research: Computational Mechanics, Design Optimization and Sensitivity Analysis

Dr. Michael Kozhevnikov, Associate Professor

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Area of Research: Fiber Optics, Photonics & Sensors, Virtual Reality & Visualization

Dr. Kevin Santiago, Assistant Professor

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Area of Research: Micro/nano fabrication, plasmonic thin films, photonics

Dr. Kyo Song, Professor

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Area of Research: Electro-optical Devices & Systems, Wireless Power Transmission, Spectroscopy

Dr. Hargsoon Yoon, Professor

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Area of Research: Biomedical Nanomaterials, Neural Sensing, Nano-electronic Materials & Devices

ADMINISTRATIVE STAFF

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