Wide Bandgap Semiconductors

Wide bandgap (WBG) semiconductors are at the center of advancing clean energy, transportation, and high-performance systems. The Master of Science in Wide Bandgap Semiconductors (MS-WBGS) helps motivated students enter these fast-growing sectors by providing focused training within one of the nation's leading ecosystems for wide bandgap semiconductors.

This program is ideal for students with a background in engineering or physical sciences and an interest in clean energy, transportation, or semiconductor applications. Students will advance their knowledge of Bandgap Semiconductor processes, materials, and devices through hybrid online and classroom instruction. Students will then apply their theoretical learning to real-world situations through internships and intensive practicums. The MS-WBGS can provide both new and mid-career engineers with advanced technical preparation for positions in various industries, from electric vehicles to aerospace and defense.

More Information

Wide Bandgap Semiconductors program website (https://ece.ncsu.edu/grad/masters/ms-wbgs/)

Admission Requirements

Minimum requirements for admissions include:

- NC State Graduate School application
- Transcripts showing an undergraduate GPA of 3.0 or better
- A B.S. in computer science, computer engineering, electrical engineering, materials science, physics or similar.
- Statement of purpose
- Letters of recommendation
- Completion of an equivalent of the following courses: ECE 404, Introduction to Solid State Devices or MSE 355, Electrical, Magnetic and Optical Properties of Materials.
- International students must provide English proficiency documentation in one of the following forms: a score of at least 18 on each section of the TOEFL test, a score of at least 6.5 on each section of the IELTS test, or a cumulative score of 110 on the Duolingo exam.

Applicant Information

- **Delivery Method:** On Campus, Online, Hybrid
- **Entrance Exam:** None
- **Interview Required:** None

Application Deadlines

- **Fall:** May 15th, 2026 (international), June 25th, 2026 (US students)
- **Spring:** Sept 15th, 2026 (international), Oct 25th, 2026 (US students)

- Wide Bandgap Semiconductors (MS) (https://catalog.ncsu.edu/graduate/engineering/wide-bandgap-semiconductors/wide-bandgap-semiconductors-ms/)

Faculty

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