

# Master of Science in Medical Device Engineering

## MSMDE

The MSMDE program was created in response to the needs of the medical device industry. It prepares students for engineering roles in specialties such as in-vitro diagnostics, surgical instruments, assistive technology and biosensors. Graduates of the program have careers in functional areas including research and development, process development, manufacturing, and quality control.

Students learn how to design devices that diagnose and treat medical needs, develop the next-generation of transformative devices, and plan and manage production to improve worldwide healthcare. Our graduates are passionate about medical devices and diagnostics and apply their engineering backgrounds to solve real healthcare problems.

### Highlights



#### Research and development

Approach design problems by understanding the clinical setting and user needs.



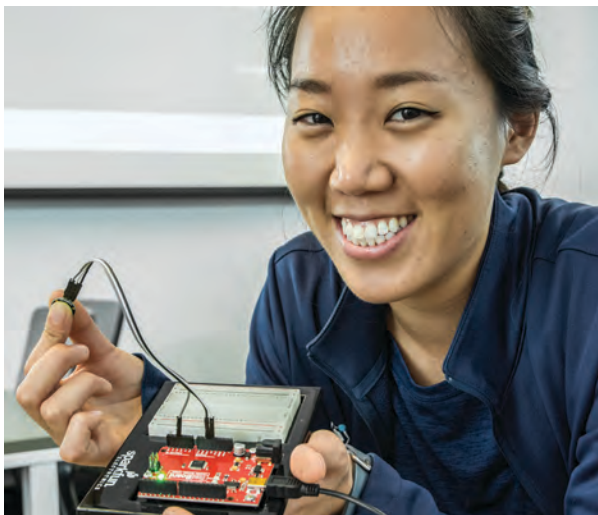
#### Manufacturing and quality

Learn and apply industry practices to develop and manufacture viable medical devices.



#### Industry Experience

Work in teams with industry sponsors to solve problems.



### What sets KGI's MSMDE apart from other master's programs?

- Visiting speakers
- Case-based course work
- Industry sponsored projects
- Alumni network
- Advisory Board connections
- Capstone experience
- Team projects
- Interdisciplinary collaboration



## Curriculum

The curriculum covers the essential areas of expertise to apply engineering skills into the specialized field of medical devices. It is a two-semester program with small-section, in-person classes; 30 credits are required to complete the program. The curriculum covers the essential areas of expertise to apply engineering skills into the specialized field of medical devices, and provides authentic experiences with the industry.

Fall	Spring
Medical Diagnostics	Medical Devices
Product Development	Production Methods
Industry Sponsored Team Masters Project	Industry Sponsored Team Masters Project
Specialty Electives	Specialty Electives

Elective options allow for broadening knowledge including data analysis, business of bioscience, and regulatory affairs.

## About the program

The Master of Science in Medical Device Engineering program is a two semester accelerated masters designed to prepare students for careers in medical devices based on the needs articulated by industry key-opinion leaders.

- **Breadth**—Courses in Medical Diagnostics and Medical Devices expose students to the breadth of technology in the industry.
- **Depth**—Courses in Product Development and Production Methods cover the path of a product from idea to commercialized device.
- **Practice**—The Industry sponsored Team Masters Project provides students specific and authentic experience working with high level industry professionals in a consulting format.
- **Specialty**—Elective courses allow for students to choose more knowledge in their area of interest such as in-vitro diagnostics, product ideation, business and innovation, and regulatory affairs.

MedTech is a vast and steadily growing industry with a need for qualified engineers. In addition to the specialized technical knowledge, the MSMDE program helps develop the most employer requested personal skills including:

- Communication
- Teamwork/collaboration
- Problem solving
- Organizational skills
- Creativity

## Career options

100% of the program's graduates are currently placed as an engineer, scientist, or medical student. Students receive personal coaching and mentoring to select courses, prepare for interviews, and identify fulfilling career directions.

## How to apply

### Dates and deadlines

**Start terms:** Fall

**Application deadline:** December 15 (priority), rolling admissions thereafter

### Application requirements:

- Completed online application
- Personal statement
- Resume
- Letter of recommendation
- Transcripts
- English language proficiency (TOEFL, PTE, IELTS, iTEP)
- \$75 non-refundable application fee

### Admission interviews:

- Phone
- Virtual
- On-campus

*Admitted students are required to submit a \$400 non-refundable enrollment fee to hold their spot in the program.*



## Contact us

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📄 For more information, please visit [kgi.edu/msmde](http://kgi.edu/msmde)