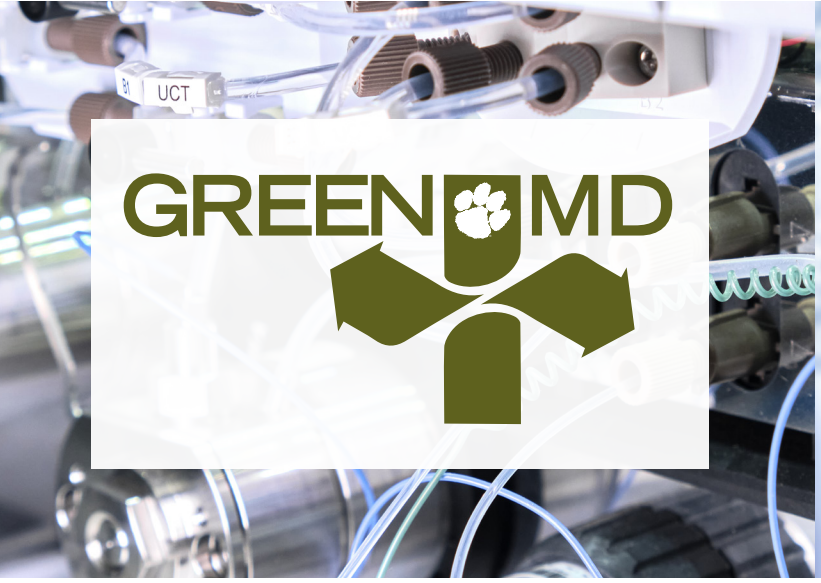
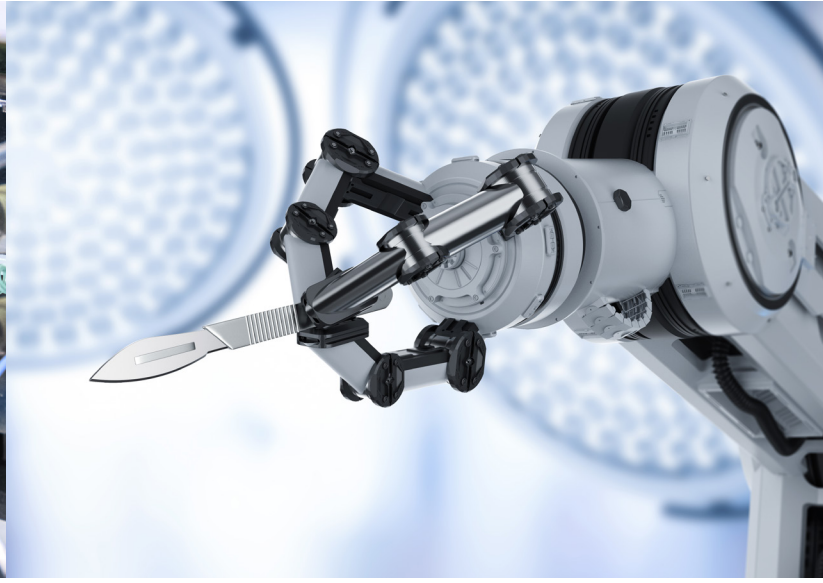


GREEN MD



M.S. in Medical Device Reprocessing

Offered as an online degree by
the Department of Bioengineering
in collaboration with
the Department of Industrial Engineering

Overview:

The Master of Science in Medical Device Reprocessing, designed by industry experts, educates students from across the STEM disciplines to optimize and validate biomedical technologies supporting safe reuse of medical devices and healthcare products.

- The first advanced engineering degree program in medical device reprocessing in the U.S.
- **"GreenMD"** signifies the medical device industry's aim to achieve sustainability in production and use of healthcare products.

Reprocessing is a regulated practice that involves cleaning, disinfection and sterilization of both reusable and approved single-use medical devices. Specialists must know advanced technologies and specialized process control systems for handling contaminated medical devices and rendering the reprocessed devices safe for reuse.

Program Goals:

Enhance the readiness of globally engaged students to be innovative industry leaders in sustainable biomedical technology through training in modern reprocessing and sterilization technologies, quality science and human factors in healthcare

Program Outcome:

- Earn a graduate M.S. non-thesis degree online
- Complete experiential learning through an industry internship (BIOE 8900) or mentored medical device reprocessing research (BIOE 8510)

Department of
BIOENGINEERING
Clemson® University

Enrollment

- Open to graduates who have earned bachelor's degrees in STEM disciplines.
- The M.S. in Medical Device Reprocessing is a 1 year, 30 credit hour program with entry in the fall semester and graduation the following summer semester.

Curriculum

This ***interdisciplinary online degree*** integrates fundamental principles of bioengineering and industrial engineering, medical device design and quality science in an industry immersion/training program.

The curriculum consists of ***eleven graduate-level courses*** enabling students to integrate and apply knowledge of

- medical device design principles to enable reprocessing
- human factors engineering
- the science of sterilization and its impact on materials
- microbiology and the role of process validation and controls
- clinical and regulatory affairs
- systems engineering
- supply chain management
- Six Sigma quality control and regulatory science

Delivery

- All classes are offered ***asynchronously via web-based technologies*** to accommodate the demanding schedules of graduate students and working professionals.
- With no residency requirement, students can pursue the ***M.S. online*** from anywhere in the world.

Value to Students:

Upon successful completion of the M.S. in Medical Device Reprocessing, students will

- Demonstrate interdisciplinary strategies for medical device reprocessing
- Develop skills in optimizing and validating biomedical technologies while maintaining regulatory compliance
- Address issues in global health, healthcare sustainability and risk assessment
- Target a career path in the medical sector of green technology
- Display increased competitiveness for entering the biomedical device industry, the bioscience market and the medical device reprocessing industry.

For more information, please contact

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