



» **MASTER OF BIOMEDICAL
INNOVATION AND DEVELOPMENT**



**Wallace H. Coulter Department of
Biomedical Engineering**



**EMORY
UNIVERSITY**



Sathya Gourisankar, Director of the Biomedical Innovation and Development Program, with the 2018 cohort of MBID students

ACCELERATE YOUR BIOMEDICAL CAREER



The Georgia Tech Master of Biomedical Innovation and Development (MBID) offers current and aspiring biomedical technology professionals two outstanding career-building components in one tightly focused program.

Collaborative academic instruction in biomedical technology from two top-ranked institutions in engineering and medicine; and practical, hands-on clinical experience in Atlanta's thriving biomedical industry.

Graduates of this intensive one-year professional master's program will be exceptionally well-prepared to pursue and advance their careers in the dynamic field of biomedical engineering devices and technology.

Upon successful completion of this program, graduates receive a Master of Biomedical Innovation and Development (MBID) degree from the Georgia Institute of Technology.

This Georgia Tech master's program addresses a gap in current professional biomedical education: the crucial "bench-to-bedside" progression that transforms biomedical research into practical, usable techniques and products for improving patient care. In this unique program, Georgia Tech MBID graduate students learn from experts in clinical practice, engineering design and development, best-practices manufacturing, financial planning, and commercialization, as well as guest lecturers from the diverse healthcare industry.



"We believe this program provides a very good understanding of the full life cycle needs for medical device design, manufacturing, regulatory, funding, and marketing.

In fact we felt this program provided such a good foundation and understanding of what is needed in the medical device industry that we offered positions in our company to all five graduates that we interviewed."

--Howard Baker, Vice President, Quality & Regulatory Affairs
Facet Technologies, LLC

MBID at a Glance

Program Uniqueness:

- » Focus on real world industry practice.
- » In-depth exposure to the roles, linkages and workings of all medical device industry functions.
- » Incorporation of state-of-the-art product development practices within the the medical device industry using team-based project activities and deliverables.

Value to Industry:

- » Well-rounded and trained candidates who are familiar with all aspects of medical device product development from concept through commercialization.
- » Shortened “learning curve” for candidates to “hit the ground running.”
- » Well trained candidates for taking on project leadership roles for high priority cross-functional teams and projects.

“The MBID program provided an excellent basis and overview of the medical device industry. Up until this point, my undergraduate education only gave me some creative skills, technical abilities, and a baseline understanding of the regulatory process. This program brought that understanding much deeper, as well as introduced whole areas of the medical device industry that I did not even realize were crucial to the development of a medical instrument. As a future physician, I know this will provide me with a crucial understanding of the development and process of approval behind the devices I use.”



– **Jack Novak, Class of 2018** (Post MBID, Novack enrolled in the medical M.D. program at the Emory University School of Medicine in Fall, 2019.)

Unique Highlights of the Program

The students of this program are trained on the processes involved in life cycle medical device development to enable global product launches. The training comprises the following functions and domains of expertise.

Pre-Clinical R&D: comprising the horizon from early concept evaluations and concept prototyping through pre-clinical development and testing for regulatory submission.

Regulatory and Clinicals: covering all aspects of preparing submissions for global approvals such as 510ks, IDE/PMAs, CE file and country-specific submissions as well as conducting clinical studies and preparing reports for regulatory submissions.

Quality Assurance: covering the elements of design controls, change controls, non-conformances, CAPA, etc.

Manufacturing Scale-Up and Validations: for commercial release in global markets.

The faculty for this program includes a mix of experienced professionals from the medical device industry, academic faculty, and clinical practitioners. Guest presentations (from acclaimed real world practitioners in industry, entrepreneurship and clinical practice) are supplemented by visits to the various functions of local medical device industries. Clinical rotations in hospitals, shadowing of clinicians, and in-depth observations of clinical activities are other noteworthy features of this program.

It is expected that at the end of the 12 month intense training offered in this program, the graduating students will be far better equipped to perform in any function of the medical device industry in comparison to their counterparts with little to no exposure to the realities and industry practices of device development and commercialization.

The MBID program provides a future-oriented platform of specialized expertise in the rapidly evolving field of patient care from emergency medicine, diagnosis, therapeutics, surgery, rehabilitation and home healthcare. With an emphasis on cross-disciplinary coursework and relevant clinical project experience, this program fills a distinct need for innovative, broadly educated professionals at the intersection of biomedical device engineering, regulatory requirements, healthcare delivery, business development and healthcare policy.

» “As a student in the MBID program, I learned to connect the dots [in the biomedical device industry]. Throughout the program, my vision for innovating medical devices to meet clinical needs was coupled with new knowledge on how to take concepts from ideation to commercialization. I learned high level information about the industry that I couldn’t have gotten anywhere else.”

--Houston Rhodes, MBID Alum, Graduating Class of 2016

» The MBID master’s program is a full-time, one-year residential program that is completed in three sequential semesters over 12 months. Candidates enroll in the fall semester and take four courses (fall & spring semester) and three courses (summer semester). In addition to these courses, there is a team-based clinical project involved in the program. For this, student teams shadow and work with expert clinicians across various therapeutic areas to identify relevant unmet clinical needs and develop solution packages. At this time, there are no evening or distance-learning options for the MBID program. Students must be enrolled full-time in the program.

Course of Study

- » BMED 6501: Fundamentals of Biomedical Innovation and Development Processes
- » BMED 6502: Clinical Experience and Literacy
- » BMED 6503: Medical Markets and Clinical Specialties
- » BMED 6504: Financial Planning for Projects
- » BMED 6505: Product Planning and Project Management
- » BMED 6506: Professional Communications for Biomedical Engineering Projects
- » BMED 6507: Fundamentals of Medical Device Regulatory Process
- » BMED 6508: BioID Team Masters Project I
- » BMED 6509: BioID Team Masters Project II
- » Graduate-level elective (spring semester)
- » Graduate-level elective (spring semester)



An MBID student team holding their device

All admission materials must be submitted via the Georgia Tech graduate admission system by the application deadline of December 31 for potential entry in the fall of the following year.

» **Apply here: www.grad.gatech.edu** »

Once submitted, applications are reviewed by the department’s faculty admissions committee. Decisions are made by the end of February.

How to Apply

Aspiring students who wish to pursue a career in biomedical product development such as medical devices, as well as, working biomedical professionals are invited to apply for the Georgia Tech MBID professional master’s degree program.

- » To be competitive, you should have:
 - An undergraduate degree in any discipline: (e.g., engineering, science, medicine, business, etc)
 - Relevant internships or experience in the biomedical, pharmaceutical, or related industries will be a plus
 - Submission of a statement of intent, and three (3) letters of recommendation

CONTACT US TODAY TO FIND OUT
MORE ABOUT THIS ONE YEAR PROGRAM

Recruiting

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Testimonials from MBID program alumni:

“The program provided me with the opportunity to learn from the first-hand experiences of people in the industry . . . Not only do I feel much more prepared entering the medical device industry, but I have also made lifelong connections with professors and classmates.”

– **Courtney Kline,**
Class of 2015

“Being part of MBID felt as though I was part of a biomedical device company.”

– **Vinuta Mayakonda,**
Class of 2015

“The program was the perfect formula to enter various facets of the medical device industry and hit the ground running. You get exactly what’s needed in the industry today, it’s the complete package.”

– **Shreyas Dighe,**
Class of 2015

“As a technical student, this program provides you with the projects and contacts that can propel you into almost any facet of the medical device industry.”

– **Sven Moon,**
Class of 2013

“The program has done a great job teaching us how to take a medical device from bench-to-bedside. Our team has filed a provisional patent on the illuminating catheter we developed, and we will be the owners and inventors after graduating from the program!”

– **David Shumate,**
Class of 2018

“I can say with confidence that I am completely prepared to begin my career in the medical device industry.”

– **Keanoeka Mingoia,**
Class of 2015



MBID students hone their leadership skills during a half-day leadership program conducted at Georgia Tech’s Leadership Challenge Course.

“Medtronic has hired MBID graduates because we believe that the diverse project-based curriculum produces graduates capable of working across the company in a variety of roles.

More importantly, we feel that the long term impact of the program is to provide future med-tech industry leaders with a rare appreciation of the full cradle to grave device development process. I believe that Medtronic’s next General Manager/President is a MBID graduate.”

--**Walt Baxter, Ph.D., Senior Principal Scientist**
Medtronic, PLC

CREATING THE NEXT®



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The Wallace H. Coulter Department of Biomedical Engineering at Georgia Tech and Emory University affirms our institutions' efforts to increase equity, diversity, and inclusion on our campuses. We strive to create a welcoming, diverse and inclusive environment that values, celebrates, and respects the individual and communal differences that make us human, and aspire to cultivate global leaders in engineering and medicine who are champions of inclusive excellence.



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