

# BIOINNOVATION, MS

## Overview

The School of Science and Engineering's MS in Bioinnovation is a professional, non-thesis degree that represents the intersection of biological science, technology, and business as it relates to the commercialization of new biological technologies. To meet growing demands for rigorous training in technology translation, the MS in Bioinnovation targets students with BS or BSE degrees in STEM fields and will give them advanced education in biology, technology, and technology commercialization, while providing real-world experiences in the form of internships. Rather than focusing on research and development, for which existing programs already provide training, these internships are focused on early-stage commercialization of new technology, such as investigating the intellectual property landscape, performing market research, conducting customer discovery, or navigating regulatory affairs. The combination of concrete internships with advanced education will make graduates of the program highly marketable to startup companies and well as established companies and will contribute to the pipeline of talent needed to sustain biotechnology enterprise in the region and beyond.

## Requirements

Students must complete 24 hours of course work in biology, commercialization, technology & design, and policy & regulatory affairs, plus 6 hours of a professional internship. Students are required to take at least 2 courses in each of biology, commercialization, and applied science, and at least 1 course in policy. The curriculum is designed to be flexible enough to accommodate different students' backgrounds and career goals.

Course ID	Title	Credits
<b>Biological Foundations (at least 2 courses required)</b>		<b>6</b>
BMEN 6030	Anatomy & Physio for Engr	
BMEN 6070	Quant Physio Lec	
CELL 6030	Molecular Biology	
CELL 6220	Microbiology	
CELL 6310	Cellular Neuroscience	
CELL 6710	Molecular Biology of Cancer	
CELL 6750	Cell Biology	
<b>Commercialization, Business, and Entrepreneurship (at least 2 courses required)</b>		<b>6</b>
BMEN 6080	Tech Invent & Commercialization	
SCEN 6000	Entrepreneurship Eng & Biosci	
FINE 7140	Venture Capital & Private Equity	
MGMT 7210	Management of Technology and Innovation	
MKTG 6020	Marketing	
<b>Technology &amp; Design (at least 2 courses required)</b>		<b>6</b>
BMEN 6440	Microphysiological Systems	
BMEN 6790	Design Studio	
BMEN 6800	BME Data Science: Medical Imaging/Machine Learning	
BMEN 6830	Intro Biomed Imaging & Process	
BMEN 6840	Medical Imaging Physics	
BMEN 6970	TRIZ - Theory of Inventive Design	
CELL 6050	Foundations of Pharmacology	
CENG 6710	Biochemical Engineering	
CENG 6770	Advances In Biotechnolog	
CENG 6870	Biomolecular & Cellular Engr	
BIOS 6040	Intermediate Biostatistics	
<b>Policy &amp; Regulatory Affairs (at least 1 course required)</b>		<b>3</b>
BMEN 6090	Effective Innovation in Medical Technology Development	
MGMT 7170	Healthcare Policy & Reform	
SPHL 6070	Health Systems Policy and Management	
<b>Elective (Choose One)</b>		<b>3</b>
Choose one additional course from any area above		
<b>Internship (both courses required)</b>		

BMEN 7560	Professional Internship I	3
BMEN 7570	Professional Internship II	3
<b>Total Credit Hours</b>		<b>30</b>

Other courses may be added with consultation from other departments and schools. Graduate prerequisites to these courses will be accepted for credit toward the degree. Additional courses will be considered to fulfill these requirements by written petition.

**Program String and Field of Study:** SEMS\_GR, BIOI

## Contact

For more information, contact the School of Science and Engineering (<https://sse.tulane.edu/bme/contact-bme/>).