

Master of Biomanufacturing and Bioprocessing
Fall 2020

This document is a proposed MBB program of study.

Program Requirements

Students must earn a grade of "C" (2.0) or better in all courses and must maintain an overall GPA of >3.0.

YEAR ONE

<u>Fall Semester</u>		<u>Hours</u>	<u>Spring Semester</u>		<u>Hours</u>
BIOE 6780	Regulations and Ethics in BME	3	BCHE 6510	Biochemical Engineering	3
BCMB 6030L	Bioprocess Technology	4	PHRM 7100	Biostat App Pharm Biotech Ind	3
	Business Elective	3		Business Elective	3
Total Credit Hours		10	Total Credit Hours		9
Summer					
ENGR 7900	Graduate Internship	1			
Total Credit Hours		1			

YEAR TWO

<u>Fall Semester</u>		<u>Hours</u>	<u>Spring Semester</u>		<u>Hours</u>
BCHE 6520	Biochemical Separations Proc	3	BCHE 8210	Fermentation Engineering Lab	3
	Science / Engineering Elective	3	BCHE 7010	Project-Focused Masters Research	3
	Science / Engineering Elective	3		Science / Engineering Elective	3
Total Credit Hours		9	Total Credit Hours		9



Business Electives (select two of the following):

ENTR 7090	Critical Design Thinking (3)	ENTR 7515	Entrepreneurship (3)
ENTR 7310	Innovation Management (3)	ENTR 7525	Managing the Entrepreneurial Venture (3)
ENTR 7320	Innovative Business Projects (3)	MGMT 7220	Project Management (3)
ENTR 7500	Introduction to Entrepreneurship (3)	FINA 7010	Financial Management (3)
ENTR 7510	Developing Successful Business Plans (3)	MIST 7600	Data Management and Analytics (3)

Science/Engineering Electives (select three of the following):

Track 1: Synthetic Biology		Track 2: Biopharmaceutical & Cell Manufacturing	
BCHE 6655	Metabolic Engineering & Synthetic Biology (3)	BCHE 6650	Animal Cell Biomanufacturing (3)
BCHE 6710	Sustainable Process Engineering (3)	PHAR 6030	Current Good Manufacturing Practices (4)
BCHE 8610	Bioelectroanalytical Techniques (3)	BIOE 8340	Stem Cell Engineering (3)
ENGR 6490	Renewable Energy (3)	BIOE 8120	Regen Med, Cell Manufacturing & Society (3)
BCHE 6550	Bioprocess Des & Simulation (3)	PHAR 6010	Intro Pharm, Biotech & Device Industries (4)
BCHE 8220	Advanced Metab Eng Syn Biol (3)	BCMB 8112	Adv Genetics Cell Bio Biochem (3)
MIBO 6600L	Experimental Microbiology Lab (3)	BCMB 8113	Adv Genetics Cell Bio Biochem (3)
GENE 6520	Gene Industrial Micro Organism (3)		
GENE 8980	Prokaryotic Genetics (2)		

