ENGINEERING THERAPEUTICS MANUFACTURING - CERTIFICATE

The Engineering Therapeutics Manufacturing Certificate is intended to meet the requirements of industry by educating engineering Bachelor of Science graduates how to economically, ecologically and safely design and operate equipment used for the production and separation of biological materials. By the end of the certificate program, students will be able to:

1. understand the processing of biological materials
2. analyze functions and properties of biological materials
3. understand the impact of the use/misuse of biological materials
4. understand the life cycle and evolution of biological materials
5. design, operate and optimize biological process units

For additional information, contact the Engineering Therapeutics Manufacturing Certificate coordinator or the Chemical Engineering Advising Offices, 1st Floor Jack E Brown Chemical Engineering Building, (979) 845-3361.

Program Requirements

Code	Title	Semester Credit Hours
Required Course		
Select one of the following:		3
BAEN 302	Biological and Agricultural Engineering Fundamentals II	
CHEN 482	Bioprocess Engineering	
ISEN 360	Lean Thinking and Lean Engineering	
VTPP 435	Physiology for Bioengineers II	
Prescribed Electives		
Select three of the following:		9
BAEN 431	Processes and Separations in Biopharmaceutical Manufacturing	
BAEN 471/ CHEN 471	Bioreactor Engineering	
BAEN 479	Biological and Agricultural Engineering Design I	
BMEN 404	FDA Good Laboratory and Clinical Practices	
BMEN 486	Biomedical Nanotechnology	
BMEN 487	Drug Delivery	
CHEN 364	Kinetics and Reactor Design	
CHEN 455/ SENG 455	Process Safety Engineering	
CHEN 461	Process Dynamics and Control	
CHEN 463	Systems Biology	
Total Semester Credit Hours		**12**