

PHARMACEUTICAL TECHNOLOGY

*Effective Term - Summer 1997 [1997*02]*

PTC 110	Industrial Environment	3	0	3
Prerequisites:	None			
Corequisites:	None			

This course introduces the pharmaceutical industry, including a broad overview of work in this field. Emphasis is placed on good manufacturing practices (GMP), work conduct, company organization, job expectations, personal safety, hygiene, and company rules and regulations. Upon completion, students should be able to follow good manufacturing practice regulations and inspect a pharmaceutical manufacturing facility for compliance with GMP. *This course is also available through the Virtual Learning Community (VLC).*

*Effective Term - Summer 1997 [1997*02]*

PTC 120	Pharm Quality Control	3	2	4
Prerequisites:	MAT 121 and PTC 110			
Corequisites:	None			

This course covers the principles and techniques of quality control as found in the pharmaceutical industry. Emphasis is placed on lot inspection, sampling procedures, control charts, vendor auditing, statistical analysis, and Military Standard 105. Upon completion, students should be able to apply and follow the appropriate statistical sampling plans for Pharmaceutical Product Lot Acceptance.

*Effective Term - Spring 2007 [2007*01] - CRC 03/22/06*

PTC 210	Pharm Industrial Processes	3	2	4
Prerequisites:	None			
Corequisites:	None			

This course examines the manufacturing processes for selected pharmaceutical dosage forms. Emphasis is placed on manufacturing and testing of tablets, capsules, sustained release drugs, solutions, emulsions, suspensions, creams, ointments, aerosols, and sterile products. Upon completion, students should be able to demonstrate the processing steps and test procedures for these dosage forms.

*Effective Term - Summer 1997 [1997*02]*

PTC 210	Pharm Industrial Processes	3	2	4
Prerequisites:	PTC 120			
Corequisites:	None			

This course examines the manufacturing processes for selected pharmaceutical dosage forms. Emphasis is placed on manufacturing and testing of tablets, capsules, sustained release drugs, solutions, emulsions, suspensions, creams, ointments, aerosols, and sterile products. Upon completion, students should be able to demonstrate the processing steps and test procedures for these dosage forms.

*Effective Term - Spring 2007 [2007*01] - CRC 03/22/06*

PTC 212	Applied Microbiology	3	2	4
Prerequisites:	BIO 110 or BIO 111			
Corequisites:	None			

This course covers microbiology as it applies to the pharmaceutical industry. Emphasis is placed on types of microorganisms and identification, culture, sterilization, and contamination control. Upon completion, students should be able to explain how microbiology and microbiological control are important to the pharmaceutical industry.

*Effective Term - Summer 1997 [1997*02]*

PTC 212	Applied Microbiology	3	2	4
Prerequisites:	BIO 111 and CHM 132			
Corequisites:	None			

This course covers microbiology as it applies to the pharmaceutical industry. Emphasis is placed on types of microorganisms and identification, culture, sterilization, and contamination control. Upon completion, students should be able to explain how microbiology and microbiological control are important to the pharmaceutical industry.

*Effective Term - Spring 2007 [2007*01] - CRC 03/22/06*

PTC 214	Parenteral Processes	3	2	4
Prerequisites:	None			
Corequisites:	None			

This course covers quality assurance for injectable products. Emphasis is placed on environmental monitoring and sterility, pyrogen, particulate, and package integrity testing. Upon completion, students should be able to demonstrate competence in these test procedures.

*Effective Term - Summer 1997 [1997*02]*

PTC 214	Parenteral Processes	3	2	4
Prerequisites:	PTC 120			
Corequisites:	PTC 212			

This course covers quality assurance for injectable products. Emphasis is placed on environmental monitoring and sterility, pyrogen, particulate, and package integrity testing. Upon completion, students should be able to demonstrate competence in these test procedures.

*Effective Term - Summer 1997 [1997*02]*

PTC 220	Laboratory Animals	3	2	4
Prerequisites:	BIO 110 or BIO 111; and PTC 110			
Corequisites:	PTC 212			

This course covers the use of laboratory animals in support of research and product testing. Emphasis is placed on animal hygiene, care and feeding, sanitation, injection procedures, and laboratory dissection. Upon completion, students should be able to demonstrate an understanding of the procedures pertaining to common laboratory animals used in research and pharmaceutical product testing.

*Effective Term - Spring 2007 [2007*01] - CRC 03/22/06*

PTC 222	Pharm Process Control	2	2	3
Prerequisites:	None			
Corequisites:	None			

This course provides a systematic study of the control of all processes within the pharmaceutical industry. Topics include production economics, plant layout, computer-integrated manufacturing, planning and controls, materials management, routing and scheduling, progress reports, and relationship with quality control. Upon completion, students should be able to demonstrate an understanding of process flow controls, economic considerations, and materials management in modern pharmaceutical manufacturing.

*Effective Term - Summer 1997 [1997*02]*

PTC 222	Pharm Process Control	2	2	3
Prerequisites:	PTC 210			
Corequisites:	None			

This course provides a systematic study of the control of all processes within the pharmaceutical industry. Topics include production economics, plant layout, computer-integrated manufacturing, planning and controls, materials management, routing and scheduling, progress reports, and relationship with quality control. Upon completion, students should be able to demonstrate an understanding of process flow controls, economic considerations, and materials management in modern pharmaceutical manufacturing.

*Effective Term - Spring 2007 [2007*01] - CRC 03/22/06*

PTC 226	Validation	3	0	3
Prerequisites:	PTC 110			
Corequisites:	None			

This course covers the methods used in pharmaceutical process and product validation. Emphasis is placed on manufacturing processes, specific dosage forms, FDA rationale, and documentation requirements. Upon completion, students should be able to write a validation protocol and perform validation studies for a variety of pharmaceutical applications.

*Effective Term - Summer 1997 [1997*02]*

PTC 226	Validation	3	0	3
Prerequisites:	PTC 210 and PTC 214			
Corequisites:	None			

This course covers the methods used in pharmaceutical process and product validation. Emphasis is placed on manufacturing processes, specific dosage forms, FDA rationale, and documentation requirements. Upon completion, students should be able to write a validation protocol and perform validation studies for a variety of pharmaceutical applications.

*Effective Term – Spring 2007 [2007*01] – CRC 03/22/06*

PTC 228	Pharmaceutical Issues	1	0	1
Prerequisites:	None			
Corequisites:	None			

This course provides a forum for discussion of current pharmaceutical topics. Emphasis is placed on events, news, regulations, and technology in pharmaceutical manufacturing. Upon completion, students should be able to demonstrate an understanding of the dynamic nature of the pharmaceutical industry.

*Effective Term – Spring 2002 [2002*01] – CRC 10/10/01*

PTC 228	Pharmaceutical Issues	1	0	1
Prerequisites:	PTC 110			
Corequisites:	None			

This course provides a forum for discussion of current pharmaceutical topics. Emphasis is placed on events, news, regulations, and technology in pharmaceutical manufacturing. Upon completion, students should be able to demonstrate an understanding of the dynamic nature of the pharmaceutical industry.

*Effective Term - Summer 1997 [1997*02]*

PTC 228	Pharmaceutical Issues	1	0	1
Prerequisites:	PTC 210 and PTC 214			
Corequisites:	None			

This course provides a forum for discussion of current pharmaceutical topics. Emphasis is placed on events, news, regulations, and technology in pharmaceutical manufacturing. Upon completion, students should be able to demonstrate an understanding of the dynamic nature of the pharmaceutical industry.

*Effective Term - Summer 1997 [1997*02]*

PTC 230	Pharmaceutical Chemistry	3	3	4
Prerequisites:	ENV 212			
Corequisites:	None			

This course is a basic introduction to the organic chemistry of pharmaceutical materials. Emphasis is placed on nomenclature, structure, and physical and chemical properties of aliphatic, aromatic, and heterocyclic compounds. Upon completion, students should be able to identify and understand the chemical and physical properties of organic compounds.

See the SEL and SEM prefixes for generic Selected Topics and Seminar course descriptions.