The Pharmaceutical Manufacturing Technology (PMT) program is a specialized chemical technology program designed to meet the needs of the pharmaceutical and related industries (cosmetics, food, plastics, custom chemicals, research centers, pilot plants etc.). The PMT curriculum prepares students to work in manufacturing, research and development, and quality control and quality assurance departments of pharmaceutical, cosmetics, and related chemical industries. Today’s industrial environment requires technicians well trained in state-of-the-art instruments, computer methods, safety protocols and federal and state government regulations.

The PMT program provides a solid foundation in liberal arts and sciences combined with specialized training in the field. Students also have the option of transferring to science and engineering bachelor’s programs or to pharmacy schools to continue their education. The program articulates with SUNY Empire State College. Visit the Transfer Planning web site for details.

Curriculum Coordinator: Dr. Thomas Brennan

Pharmaceutical Manufacturing Technology Curriculum (Pathways)
60 Credits required for A.A.S. Degree

Required Core
A. English Composition
   • ENG 10 Fundamentals of Composition and Rhetoric OR ENG 11 Composition and Rhetoric I (3 Credits)
C. Life and Physical Sciences
   • CHM 11 General Chemistry I (4 Credits)

Flexible Core
A. World Cultures and Global Issues
   • HIS 10 History of the Modern World OR HIS 11 Introduction to the Modern World (3 Credits)
D. Individual and Society
   • COMM 11 Fundamentals of Interpersonal Communication (3 Credits)
E. Scientific World
   • CHM 12 General Chemistry II (4 Credits)
   • Additional Flexible Core Requirement - Scientific World
   • BIO 11 General Biology I (4 Credits)
   SUBTOTAL 21

Required Areas of Study
• ART 10 Art Survey (1 Credit)
• BIO 12 General Biology II (4 Credits)
• CHM 31 Organic Chemistry I (5 Credits)
• CHM 32 Organic Chemistry II (5 Credits)
• ENG 23 Scientific and Technical Writing (3 Credits)
• MTH 13 Trigonometry and College Algebra (3 Credits)
• MTH 14 Algebra and Introduction to Calculus (3 Credits)
   SUBTOTAL 24

Specialization Requirements
• CHM 27 Principles of Laboratory Safety (2 Credits)
• CHM 37 Quantitative Instrumental Analysis (4 Credits)
• CHM 38 Computer Applications in Chemistry (2 Credits)
• RESTRICTED ELECTIVES (5-6 Credits)
• CHM 39 Foundations of Pharmaceutical Process Technology (3 Credits)
• CHM 40 Pharmaceutical and Chemical Technology (3 Credits)
• PMT 41 Pharmaceutical Chemistry (3 Credits)
• PMT 42 Pharmaceutical Product Preparation (3 Credits)
• PMT 43 Pharmaceutical Laws and Regulations (2 Credits)
• FREE ELECTIVES to complete 60 credit requirement (1-2 Credits)
   SUBTOTAL 15

1 Students can substitute PHY 11 for BIO 12. Students who wish to substitute both PHY 11 and PHY 12 for BIO 11 and BIO 12 need department approval.
2 Students can substitute MUS 10, or any PEA one-credit course, or CPR 10, or WFA 10 for ART 10.
3 Students intending to transfer to four-year programs should substitute MTH 30 and MTH 31 and 32 for MTH 13 and MTH 14.
4 Students may choose any combination of restricted electives CHM 39, CHM 40, PMT 41, PMT 42 and PMT 43 to meet the program credits requirement.
PHARMACEUTICAL MANUFACTURING TECHNOLOGY (PRE-PATHWAYS)

Associate in Applied Sciences Degree | Career Program
Department of Chemistry and Chemical Technology

If you began studying at BCC in or after Fall 2013, Pathways applies. Pathways also applies to students who have returned to CUNY after an absence of more than one semester. If you are a continuing student who entered before Fall 2013, you will be able to choose whether you remain with your existing requirements or change to Pathways. You should consult with an academic advisor.

Curriculum Coordinator: Dr. Thomas Brennan

Pharmaceutical Manufacturing Technology Curriculum
60 Credits required for A.A.S. Degree

Core Requirements
• ART 10* Art Survey (1 Credit)
• BIO 11# General Biology I (4 Credits)
• CHM 11 General Chemistry I (4 Credits)
• CMS 11 Fundamentals of Interpersonal Communication (3 Credits)
• ENG 10 Fundamentals of Composition and Rhetoric OR ENG 11 Composition and Rhetoric I (3 Credits)
• HIS 10 History of the Modern World OR HIS 11 Introduction to the Modern World (3 Credits)
• MTH 13** Trigonometry and College Algebra (3 Credits)
• OCD 10 Orientation and Career Development (0 Credit)
TOTAL 21

Required Areas of Study
• BIO 12# General Biology II (4 Credits)
• CHM 22 General Chemistry II with Qualitative Analysis (5 Credits)
• CHM 31 Organic Chemistry I (5 Credits)
• CHM 32 Organic Chemistry II (5 Credits)
• ENG 23 Scientific and Technical Writing (3 Credits)
• MTH 14** Algebra and Introduction to Calculus (3 Credits)
TOTAL 25

Specialization Requirements
• CHM 27 Principles of Laboratory Safety (2 Credits)
• CHM 37 Quantitative Instrumental Analysis (4 Credits)
• CHM 38 Computer Applications in Chemistry (2 Credits)
• Restricted Electives## (5-6 Credits)
• CHM 39 Foundations of Pharmaceutical Process Technology (3 Credits)
• CHM 40 Pharmaceutical and Chemical Technology (3 Credits)
• PMT 41 Pharmaceutical Chemistry (3 Credits)
• PMT 42 Pharmaceutical Product Preparations (3 Credits)
• PMT 43 Pharmaceutical Laws and Regulations (2 Credits)
• FREE ELECTIVE*** (to complete 60 credit requirement) (0-1 Credit)
TOTAL 14

NOTE: At least two courses must be taken from a list designated as “Writing Intensive” as published each semester in the Registration Guide and Schedule of Classes.
*Students can substitute MUS 10, or any PEA one-credit course, or CPR 10, or WFA 10 for ART 10.
#Students can substitute PHY 11 for BIO 12. Students who wish to substitute both PHY 11 and PHY 12 for BIO 11 and BIO 12 need department approval.
**Students intending to transfer to four-year programs should substitute MTH 30 and MTH 31 and 32 for MTH 13 and MTH 14.
## Students may choose any combination of the restricted electives CHM 39, CHM 40, PMT 41, PMT 42 and PMT 43 to meet the program credits requirement.
*** Students may take a one credit free elective course to fulfill the program credit requirement.