Bachelor of Science Degree with a Major in Polymer Chemistry

Degree: Bachelor of Science
Major: Polymer Chemistry

Core Requirements (36 hours)
__ CHEM-215 General Chemistry I (3 hours)
and __ CHEM-216 General Chemistry I Laboratory (2 hours)
Note: CHEM 215 and CHEM 216 satisfies the Physical Sciences general education requirement.
__ CHEM-225 General Chemistry II (3 hours)
and __ CHEM-226 General Chemistry II Laboratory (2 hours)
__ CHEM-235 Laboratory Safety and Compliance (1 hour)
__ CHEM-325 Organic Chemistry I (3 hours)
and __ CHEM-326 Organic Chemistry Laboratory (2 hours)
__ CHEM-335 Organic Chemistry II (3 hours)
and __ CHEM-336 Organic Chemistry II Laboratory (2 hours)
__ MATH-150 Calculus I (5 hours)
Note: MATH 150 satisfies the Mathematics general education requirement.
__ PHYS-104 Engineering Physics I (4 hours)
and __ PHYS-130 Elementary Physics Laboratory I (1 hour)
__ PHYS-105 Engineering Physics II (4 hours)
and __ PHYS-131 Elementary Physics Laboratory II (1 hour)

Polymer Chemistry Core Courses (22-24 hours)
__ CHEM-360 Introduction to Polymer Science and Technology (3 hours)
__ CHEM-361 Senior Review and Assessment (1 hour)
__ CHEM-625 Polymer Synthesis and Characterizations (3 hours)
and __ CHEM-626 Polymer Synthesis and Characterizations Laboratory (2 hours)
__ CHEM-680 Physical Properties of Polymers (3 hours)
__ CHEM-681 Polymer Chemistry Colloquium (1 hour)
__ CHEM-685 Selected Topics in Polymer Chemistry (1-3 hours)
__ CHEM-687 Polymers in Nanotechnology (3 hours)
__ PET-273 Plastics Processing I (3 hours)
and __ PET-272 Plastics Processing Laboratory (1 hour)

Select 6 hours of Polymer electives from:
__ CHEM-270 Sophomore Research in Polymer Chemistry (1 hour)
__ CHEM-370 Junior Research in Polymer Chemistry (1 hour)
__ CHEM-640 Polyurethanes and Their Applications (3 hours)
__ CHEM-650 Conducting Polymers and Their Applications (3 hours)
__ CHEM-670 Senior Research in Polymer Chemistry (1 hour)
__ CHEM-683 Biopolymers (3 hours)
__ PET-273 Plastics Processing I (3 hours)
and __ PET-272 Plastics Processing Laboratory (1 hour)

Pitt State Pathway Requirements

Core Elements (12 hours)
A0 - Written Communications
__ ENGL-101 English Composition (3 hours)
__ ENGL-299 Introduction to Research Writing (3 hours)
B0 - Verbal Communication
__ COMM-207 Speech Communication (3 hours)
C0 - Quantitative/Analytic Methods
__ MATH-110 College Algebra with Review (5 hours)
__ MATH-113 College Algebra (3 hours)
__ MATH-126 Pre-Calculus (4 hours)
__ MATH-133 Quantitative Reasoning (3 hours)
__ MATH-143 Elementary Statistics (3 hours)
__ MATH-150 Calculus I (5 hours)
__ MATH-204 Mathematics for Education I (3 hours)
__ PHIL-207 Critical Thinking (3 hours)
__ PHIL-208 Logic (3 hours)

Essential Studies (23-24 hours minimum)
See notes *1
Notes *1: D-G and cannot be same prefix as major.

D - The Human Experience (3-6 hours)
D1- Diverse Perspectives
__ ENGL-113 General Literature (3 hours)
__ ENGL-114 General Literature (Genre) (3 hours)
__ ENGL-116 General Literature (Theme) (3 hours)
__ ENGL-120 Literature and Film (3 hours)
__ ENGL-250 Introduction to Creative Writing (3 hours)
__ ENGL-315 Mythology (3 hours)
__ ENGL-320 Literature and Film (3 hours)

D3 - Non-Verbal and Creative Expression
__ ART-178 Introduction to the Visual Arts (3 hours)
__ ART-188 The Designed World (3 hours)
__ ART-217 Crafts I (3 hours)
__ ART-222 Jewelry Design I (3 hours)
__ ART-233 Drawing I (3 hours)
__ ART-244 Ceramics I (3 hours)
__ ART-266 Sculpture I (3 hours)  
__ ART-277 Painting I (3 hours)  
__ ART-288 Introduction to Art History I (3 hours)  
__ ART-289 Introduction to Art History II (3 hours)  
__ ART-311 Art Education (3 hours)  
__ COMM-105 Performance Appreciation (3 hours)  
__ COMM-205 Performance Studies (3 hours)  
__ COMM-395 Theatre History (___) (3 hours)  
__ HHP-151 Dance Appreciation (3 hours)  
__ MUSIC-120 Music Appreciation (____) (3 hours)  
__ MUSIC-121 Introduction to Music Literature (3 hours)  
__ MUSIC-321 History of Music (3 hours)  
__ MUSIC-322 History of Music (3 hours)

E - Human Systems (9-12 hours)

E0 - No Companion  
__ CIS-130 Computer Information Systems (3 hours)  
__ EDUC-261 Explorations in Education (3 hours)  
__ EET-247 Computer Programming for Electronic Systems (3 hours)  
__ MECET-121 Engineering Graphics I (3 hours)  
__ MGT-101 Introduction to Business (3 hours)

E1 - Diverse Perspectives  
__ ANTH-101 Introduction to Cultural Anthropology (3 hours)  
__ GEOG-106 World Regional Geography (3 hours)  
__ GEOG-300 Elements of Geography (3 hours)  
__ GEOG-304 Human Geography (3 hours)  
__ HIST-101 World History to 1500 (3 hours)  
__ HIST-102 World History from 1500 (3 hours)  
__ HIST-201 American History to 1865 (3 hours)  
__ HIST-202 American History from 1865 (3 hours)  
__ MFGET-405 Quality Control (3 hours)  
__ MLL-124 French Language and Culture I (3 hours)  
__ MLL-154 Spanish Language and Culture I (3 hours)  
__ PHIL-103 Introduction to Philosophy (3 hours)  
__ PHIL-231 World Religions (3 hours)  
__ POLS-103 Comparative Politics (3 hours)  
__ SOC-100 Introduction to Sociology (3 hours)  
__ WGS-399 Global Women's Issues (3 hours)

E2 - Social Responsibility  
__ ECON-191 Issues in Today's Economy (3 hours)  
__ ECON-200 Principles of Microeconomics (3 hours)  
__ ECON-201 Principles of Macroeconomics (3 hours)  
__ EDTH-330 Technology for Teaching and Learning (3 hours)  
__ ETECH-502 Engineering Economy (3 hours)  
__ FCS-230 Consumer Education and Personal Finance (3 hours)  
__ GT-190 Introduction to Technological Systems (2 hours)  
__ GT-350 Technology and Civilization (3 hours)  
__ NURS-303 Introduction to Public Health (3 hours)  
__ PHIL-105 Ethics (3 hours)  
__ PHIL-112 Biomedical Ethics (3 hours)  
__ PHIL-113 Business Ethics (3 hours)  
__ PHIL-114 Environmental Ethics (3 hours)  
__ POLS-101 U.S. Politics (3 hours)  
__ WGS-200 Introduction to Women's Studies (3 hours)

E4 - Scientific Inquiry  
__ MFGET-263 Manufacturing Methods I (2 hours)  
and __ MFGET-268 Manufacturing Methods I Laboratory (1 hour)

F - Natural World (4-5 hours)

F0 - No Companion  
__ BIOL-617 Environmental Health (3 hours)

F4 - Scientific Inquiry  
__ BIOL-111 General Biology (3 hours)  
and __ BIOL-112 General Biology Laboratory (2 hours)  
__ BIOL-113 Environmental Life Science (4 hours)  
__ BIOL-211 Principles of Biology I (4 hours)  
__ CHEM-105 Introductory Chemistry (3 hours)  
__ CHEM-215 General Chemistry I (3 hours)  
__ PHYS-100 College Physics I (4 hours)  
or __ PHYS-104 Engineering Physics I (4 hours)  
__ PHYS-130 Elementary Physics Laboratory I (1 hour)  
__ PHYS-160 Physical Geology (3 hours)  
and __ PHYS-165 Physical Geology Laboratory (1 hour)  
__ PHYS-166 Meteorology (3 hours)  
and __ PHYS-167 Meteorology Laboratory (1 hour)  
__ PHYS-171 Physical Science (3 hours)  
and __ PHYS-172 Physical Science Laboratory (1 hour)  
__ PHYS-175 Descriptive Astronomy (3 hours)  
and __ PHYS-176 Astronomy Laboratory (1 hour)  
__ PHYS-375 Solar System Astronomy (3 hours)

G - Wellness Strategies (4-6 hours)

G0 - No Companion  
__ EXSCI-200 Introduction to Exercise Science (1 hour)  
__ FCS-203 Nutrition and Health (3 hours)  
__ HHP-150 Lifetime Fitness Concepts (1 hour)

G3 - Non-Verbal and Creative Expression  
__ DANCE-200 Dance (___) (1-3 hours)

G4 - Scientific Inquiry  
__ PSYCH-155 General Psychology (3 hours)

H - Gorilla Gateway  
H0 - No Companion  
__ UGS-150 Gorilla Gateway (2)

I - Pathway Elective (3 hours)

See notes *2

Notes *2: Elective can be from any D,E,F, or G Essential Studies and can be from the same prefix as major or repeat of prefix used in Essential Studies.

*See General Education Requirements for All Baccalaureate Degrees for specific areas and courses. **MATH 150 and core chemistry courses required in the major will fulfill a part of each of these requirements.