

**CURRENT APPROVED CURRICULUM
B.S. CHEMICAL ENGINEERING
ACADEMIC CURRICULUM [FALL 2005 AND THEREAFTER]
REVISED FALL 2007**

FIRST YEAR

First Semester			
ChE 101	Introduction to Chemical Engineering	1-0-0	
Chem 125	General Chemistry I	3-0-3	
FED 101	Fundamentals of Engineering Design ****	2-1-2	
HUM 101	English Comp: Writing, Speaking, Thinking	3-0-3	
Math 111	Calculus I	4-1-4	
Phys 111	Physics I	3-0-3	
Phys 111A	Physics I Laboratory	0-2-1	
Phys 111W	Physics I Workshop	0-1-0	
Frsh Sem	Freshman Seminar	1-0-0	
Phys Ed	(Physical Education: GUR)	0-1-1	
Subtotal			17.0

FIRST YEAR

Second Semester			
Chem 124	General Chemistry Laboratory	0-2-1	
Chem 126	General Chemistry II	3-0-3	
CS 101	Computer Programming and Problem Solving	3-0-3	
HUM 102, 211, 212 or Hist 213	See Below # (GUR)	3-0-3	
Math 112	Calculus II	4-1-4	
Phys 121	Physics II	3-0-3	
Phys 121A	Physics II Laboratory	0-2-1	
Phys Ed	(Physical Education: GUR)	0-1-1	
Subtotal			19.0

SECOND YEAR

First Semester			
ChE 210	Chemical Process Calculations I	3-0-2	
ChE 210W	Chemical Process Calculations I	0-1-0	
ChE 230	Chemical Engineering Thermodynamics I	3-0-3	
ChE 230W	ChE Thermodynamics I Workshop	0-1-0	
Chem 245	Organic Chemistry for Chemical Engineers	4-1-4	
Math 211	Calculus III A	3-0-3	
HUM 102, 211, 212 or Hist 213	See Below # (GUR)	3-0-3	
SS 201	Economics	3-0-3	
Subtotal			18.0

SECOND YEAR

Second Semester			
Chem 238	Analytical/Organic Chem Lab for ChE's	0-4-2	
ChE 240	Chemical Process Calculations II	3-0-3	
ChE 240W	Chemical Process Calculations II	0-1-0	
ChE 260	Fluid Flow	3-0-3	
Chem 236	Physical Chemistry for Chemical Engineers	4-1-4	
Math 222	Differential Equations	4-0-4	
Subtotal			16.0

THIRD YEAR

First Semester			
ChE 342	Chemical Engineering Thermodynamics II	3-0-3	
ChE 370	Heat and Mass Transfer	4-0-4	
ChE 380	Introduction to Biotechnology	3-0-3	
Eng 352	Technical Writing	3-0-3	
Chem 339	Analytical/Physical Chem. Lab. for ChE's	0-4-2	
Math 225A	Survey of Probability and Statistics *****	1-0-1	
Subtotal			16.0

THIRD YEAR

Second Semester			
ChE 349	Kinetics and Reactor Design	3-0-3	
ChE 360	Separation Processes I	3-0-2	
ChE 365	Techniques for Process Simulation	3-0-2	
ChE 396	Chemical Engineering Laboratory I	0-5-3	
Elective	(Social Science: GUR) *	3-0-3	
Mech 320	Statics and Strength of Materials	3-0-3	
Subtotal			16.0

FOURTH YEAR

First Semester			
ChE 375	Structure, Properties and Proc. of Materials	3-0-3	
ChE 460	Separation Processes II	3-0-2	
ChE 489	Process Dynamics and Control	2-2-3	
ChE 496	Chemical Engineering Laboratory II	0-6-3	
IE 492	Engineering Management	3-0-3	
Elective	(Concentration)	3-0-3	
Subtotal			17.0

FOURTH YEAR

Second Semester			
ChE 472	Process and Plant Design	4-0-4	
Elective	(Concentration)	3-0-3	
Elective	(Concentration)	3-0-3	
Elective	(HSS Capstone Seminar: GUR) ***	3-0-3	
Elective	(Lit/Hist/Phil/STS: GUR)	3-0-3	
Subtotal			16.0

TOTAL CREDITS 134.0

Students must earn a 2.0 minimum GPA and must meet appropriate departmental regulations. These include an average GPA of 2.0 in all chemical engineering courses.

- * Social Science: Lower Division General University Requirement. Choose from EPS 202, or "approved" introductory courses offered by Rutgers-Newark in Anthropology, Political Science, Psychology and Sociology.
- ** Elective: One 300 level course in Literature, History, Philosophy or STS. Qualified students may take Honors Seminars in the Humanities (HUM 491H - 499H) to fulfill all or part of this requirement.
- *** Capstone Seminar: All students must take one 400 level Capstone Seminar offered by the Department of Humanities and Social Sciences
- **** Co-Requisite - Math 111 and HUM 101.
- ***** HUM 102 English Composition, HUM 211 The Pre-Modern World, HUM 212 The World and The West, HIST 213 The Twentieth Century World.
- ***** Note: There are several courses given at Rutgers (Newark) that are equivalent to these courses.
- ***** Students must take Math 225 (Special Section for ChE and Chemistry) at the same time as Chem 339.