

**CURRICULUM 2009-2010
BACHELOR OF SCIENCE IN CHEMICAL ENGINEERING**

TOTAL HOURS: 130

Name: _____

Student ID **J00** _____

FALL	MA125 (4) Calculus I	CH131 (4) Chemistry I	EH101 (3) Composition I	BLY121 (4) General Biology	EG101 (2) EG Freshman Seminar
SPRING	MA126 (4) Calculus II <MA125>	CH132 (4) Chemistry II <CH131>	EH102 (3) Composition II <EH101>	PH201 (4) Cal Based Physics I <MA125>(MA126)	L/H/FA or H/SBS (3)
FALL	MA227 (4) Calculus III <MA126>	CH201 (4) Organic Chemistry I <CH132>	CHE201 (3) ChE Fundamentals I <CH132> (MA126)	PH202 (4) Cal Based Physics II <PH201>	L/H/FA or H/SBS (3)
SPRING	MA238 (3) Diff. Equations <MA227>	CH265 (4) Quant. Chemistry <CH132>	CHE202 (3) ChE Fundamentals II <CHE201> (BLY121)	EG270 (3) Engr Thermo <MA126,PH201>	L/H/FA or H/SBS (3)
FALL	CHE311 (3) Equil Stages <CHE202, MA227>	CHE321 (3) Unit Ops I <EG270, MA238>	CHE331 (3) Properties <CH201,CH265,EG270,CHE202>	Tech Elective I (3) (Chemistry/Biology)	L/H/FA or H/SBS (3)
SPRING	CHE322 (3) Unit Ops II <CHE321>(CHE332)	CHE332 (3) Thermo II <CH265,CHE331> (CHE322)	CHE342 (3) EG Communication <EH101/102, CHE321>	CHE372 (3) Reactor Design (CHE322, CHE332)	EG231 (3) L/H/FA or H/SBS (3) EG Economics <EG270>
FALL	CHE421 (3) Unit Ops III <CHE311, CHE322, CHE332>	CHE441 (2) Unit Ops Lab I <CHE322, CHE342>	CHE461 (3) Design I <EG,231, CHE332, CHE342, CHE372>	ChE Elective I (3)	Tech Elective II (3)
SPRING	CHE442 (2) Unit Ops Lab II <CHE342, CHE421>	CHE452 (3) Proc. Controls <CHE372>	CHE462 (3) Design II <CHE461>(CHE452)	ChE Elective II (3)	L/H/FA or H/SBS (3)

Literature/Humanities/Fine Arts (9 hours)	History/Social & Behavioral Sciences (9 hours)
Literature (Min 3 hours) EH 215, 216 - British EH225, 226 - American EH235, 236 - World	History (Min 3 hours) HY 101, 102 - Western Civ HY135, 136 - US History
Fine Arts (Min 3 hours) ARH 100, 103, 123, 240, 242 DRA 110, MUL 101, ARS 101	Social Sciences & Behavioral Sciences (Min 3 hours)
Humanities** PHL 110, 121, 131, 231, 240 (Philosophy)	AIS 115 Encounter with the Social Sciences
LG 111, 112, 211, 212 (French) LG 131,132, 231, 232 (Spanish)	AIS 201 Seasons of Life
LG 151,152, 251, 252 (German) LG 171, 172, 271, 272 (Russian)	AN 100, 101 Anthropology
LGS 101,102, 201,202 (Japanese) LGS 106, 107, 206, 207 (Arabic)	ECO 215, 216 Economics
LGS 121,122, 221, 222 (Chinese) LGS 141,142, 241,242 (Greek)	GEO 114, 115 Geography
AFR 101(Afr.Amer.Study) AIS 105 (Encount/Humanities) CA 110 (Speech)	PSC 130 U.S. Government
	SY 109, 112 Sociology
	PSY 120, 250, 121 Psychology

< > Prerequisite () Concurrently or Prerequisite Sequence _____

**Note: If you choose Humanities ** for concentration, your total hours in H/SS will be 21
Tech Electives List (see back page)**

Approved 11/3/08

Technical Electives and Chemical Engineering Electives

The purpose of electives in the chemical engineering curriculum is to strengthen the student's science base and professional training. **Electives must have departmental approval and should not be a repetition of course material covered in other courses.** The ChE curriculum requires at least 6 hours of technical electives and 6 hours of chemical engineering electives. Please note that technical electives may require prerequisite courses and/or instructor approval. The following is a partial list of approved electives:

Technical Electives (choose two courses from this list; at least one course should be from CH or BLY:)

- CH 202, CH 202L, Organic Chemistry II and Lab (3+1)
- CH 301, CH 301L, Physical Chemistry I and Lab (3+1)
- CH 302, CH 302L, Physical Chemistry II and Lab (3+1)
- CH 401, CH 401L, Intermediate Inorganic Chemistry and Lab (3+1)
- CH 403, Bioinorganic Chemistry (3)
- CH 413 Organic Reaction Mechanisms and Synthesis (3)
- CH 414, CH 414L, Environmental Chemistry and Lab (3+1)
- CH 440, Biochemistry I, (3)
- CH 441, Biochemistry II (3)
- CH 443, Laboratory Studies in Biochemistry (3)
- CH 451, Biophysical Chemistry (3)
- CH 465, Instrumental Analysis (3)
- CH 470, Computational Chemistry (4)
- BLY 122, BLY 122L, General Biology II and Lab (3+1)
- BLY 213, Microbiology (3)
- BLY 311, Genetics (3)
- BLY 341, Cell Biology (3)
- BLY 367, Marine Biology (3)
- MA 332, Differential Equations II (3)
- MA 354, Computer Assisted Mathematical Modeling (3)
- MA 436, Numerical Analysis (3)
- MA 437, Complex Variables (3)
- MA 451, Probability (3)
- MA 458, Operations Research (3)
- ST 315, Applied Probability and Statistics (3)
- ST 320, Applied Statistical Analysis (4)
- ST 335, Applied Regression Analysis (3)
- ST 340, Design and Analysis of Experiments (3)
- ST 415, Statistical Quality Control and Reliability (3)
- PH 303, PH 303L, Modern Physics with Lab (4)
- PH 348, Electricity and Magnetism (3)
- PH 463, Statistical Thermodynamics (3)
- PH 366, Mechanics I (3)
- PH 354, Electronics (3)
- CSC 414 Modeling and Simulation (3)
- CSC 415, Numerical Analysis (3)
- CE 370, CE 374, Introduction to Environmental Engineering and Lab (3+1)
- CE 470, CE 471, Water and Wastewater Treatment Design and Lab (3+1)
- CE 474, Industrial Waste Treatment (3)
- ME 316, ME 319, Instrumentation and Experimental Methods and Lab (3+1)

Pre-med majors should choose Organic Chemistry II (w/ lab) and General Biology II (w/ lab) as their tech electives.

Chemical Engineering Electives (choose at least 6 hours from this list)

- CHE 301, ChE Calculations III (3)
- CHE 451, Process Models (3)
- CHE 463, Simulation of Chemical Processes (3)
- CHE 490, Special Topics in Chemical Engineering (3)
- CHE 499, Senior Honors Project (4 or 6)