

CHEMICAL ENGINEERING SAMPLE CURRICULUM
University of Washington

June 2008

FRESHMAN – AUTUMN QUARTER

MATH 124 – Calculus I 5
CHEM 142 – Chem & Lab I 5
ENGL COMP 5

QUARTER TOTAL 15

FRESHMAN – WINTER QUARTER

MATH 125 – Calculus II 5
CHEM 152 – Chem & Lab II 5
VLPA/I&S 5

QUARTER TOTAL 15

FRESHMAN – SPRING QUARTER

MATH 126 – Calculus III 5
CHEM 162 – General Chem 5
PHYS 121 – Mechan & Lab 5

QUARTER TOTAL 15

SOPHOMORE – AUTUMN QUARTER

*MATH 307– Differential Equations 3
CHEM 237 (or 223) – Org Chem 4
PHYS 122 – Electro & Lab 5

AMATH 301 – Beg Scien. Comp or
CSE 142 4

QUARTER TOTAL 16

SOPHOMORE – WINTER QUARTER

*MATH 308– Matrix Algebra 3
CHEM 238 (or 224) – Org Chem 4
PHYS 123 – Waves & Lab 5

TC 231- Intro to Tech. Writing 3

QUARTER TOTAL 15

SOPHOMORE – SPRING QUARTER

*MATH 309 (or Substitute Course[^]) 3
CHEM E 260 – Thermodynamics 4
+TC 333 (or COM 220 or Engl
381) – Adv Technical Writing 4-5
VLPA/I&S 4

QUARTER TOTAL 15-16

JUNIOR – AUTUMN QUARTER

CHEM E 310 – Matl/Engrg Balance 4
CHEM 455 – Phys Chem I 3
Engineering Elective 3
VLPA/I&S 5

QUARTER TOTAL 15

JUNIOR – WINTER QUARTER

CHEM E 326 – Thermodynamics 4
CHEM E 330 – Tmptrt Process I 5
Engineering Elective 3
VLPA/I&S 3

QUARTER TOTAL 15

JUNIOR – SPRING QUARTER

CHEM E 340 – Tmptrt Process II 4
CHEM E 436 - Chem E Lab 1 3
CHEM 457 – Phys Chem III 3
VLPA/I&S 5

QUARTER TOTAL 15

SENIOR – AUTUMN QUARTER

CHEM E 435 – Tranprt Process III 4
CHEM 461 - Phys. Chem Lab 3
CHEM E 465 – Reactor Design 4
FREE Elective 5

QUARTER TOTAL 16

SENIOR – WINTER QUARTER

CHEM E 437 – Chem Engr lab II 3
CHEM E 480 – Process Dynamics 4
CHEM E 485 – Process Design I 4
Engineering Elective 3

QUARTER TOTAL 14

SENIOR – SPRING QUARTER

CHEM E 486 – Process Desgn II 5
Engineering Elective 3
VLPA/I&S 2
Engineering Elective 4

QUARTER TOTAL 14

* AMATH 351, AMATH 352, AMATH 353 may be substituted for MATH 307, 308, 309.

[^]Substitute course for MATH 309: AMATH 353, MATH/STAT 390 or IND E 315

+ Recommended that you take before CHEM E 436

See the Department of Chemical Engineering Bachelor of Science Degree Requirements for a list of courses acceptable as Engineering Electives.

For more information contact: Engineering Advising, 301 Loew Hall, Box 352180, Seattle, Washington 98195-2180
phone (206) 543-1770 – email (engradv@engr.washington.edu)

OR

Chemical Engineering, Benson 105, Box 351750, Seattle, Washington 98195-1750
phone (206) 543-2252 – email (advising@cheme.washington.edu)

CHEMICAL ENGINEERING GRADUATION REQUIREMENTS
University of Washington

June 2008

See end for Early Admission Requirements.

◆ Upper-Division **Admission** Requirements.

Mathematics[24 Credits]

- ◆ MATH 124 [5cr] Calculus with Analytic Geometry I
- ◆ MATH 125 [5cr] Calculus with Analytic Geometry II
- ◆ MATH 126 [5cr] Calculus with Analytic Geometry III
- ◆ MATH 307 [3cr] Intro to Differential Equations [pr: MATH 125]
- MATH 308 [3cr] Matrix Algebra[pr: MATH 126]

One course from the following list:

MATH 309, MATH/STAT 390, or IND E 315

(AMATH 351, 352 & 353 can substitute for MATH 307, 308 & 309)

Sciences[47 Credits]

- ◆ CHEM 142 [5cr] General Chemistry with lab
- ◆ CHEM 152 [5cr] General Chemistry with lab [pr: CHEM 142]
- ◆ CHEM 162 [5cr] General Chemistry with lab [pr: CHEM 152]
- (CHEM 145, 155, 165 can substitute for CHEM 142, 152, & 162)
- ◆ CHEM 237 [4cr] Organic Chem **or** CHEM 223 [pr: CHEM 162]
- CHEM 238 [4cr] Organic Chem **or** CHEM 224 [pr: CHEM 223 or CHEM 237]
- CHEM 455 [3cr] Physical Chem [pr: MATH 126 or 136; CHEM 155 or 162; PHYS 123]
- CHEM 457 [3cr] Physical Chemistry [pr: CHEM 455/456 or CHEM E 326]
- CHEM 461 [3cr] Physical Chemistry Lab [pr: CHEM 455, 457]
- ◆ PHYS 121 [5cr] Mechanics with lab [pr: MATH 124]
- ◆ PHYS 122 [5cr] Electro/Oscillatory with lab [pr: MATH 125]
- ◆ PHYS 123 [5cr] Waves with lab [pr: MATH 126]

Written and Oral Communications..... [12 - 13 Credits]

- ◆ ENGL COMP [5cr] English Composition
- TC 231 [3cr] Intro to Technical Writing [pr: ENGL COMP]
- TC 333 [4-5cr] Adv Tech Writ. [pr: TC 231] **or** COM 220 **or** ENGL 381

**Visual, Literary & Performing Arts
Individuals & Societies [VLPA/I&S].....[24 Credits]**

Minimum 10 credits in VLPA (formerly Humanities) required.
Minimum 10 credits in I&S (formerly Social Sciences) required.
Additional 4 credits from either VLPA or I&S.

Engineering Fundamentals [12 Credits]

- ◆ AMATH 301 [4cr] Beg. Scientific Computing (preferred option)
- or**
- CSE 142 Computer Programming I
- Electives [16cr] See departmental planbook for a list of acceptable courses.

Chemical Engr. Core Courses [48 Credits]

- ◆ CHEM E 260 [4cr] Thermodynamics [pr: Chem142, Math 126, Phys 121]
- CHEM E 310 [4cr] Material & Energy Balance
- CHEM E 326 [4cr] Chem Engr Thermodynamics
- CHEM E 330 [5cr] Transport Processes I
- CHEM E 340 [4cr] Transport Processes II
- CHEM E 435 [4cr] Transport Processes III
- CHEM E 436 [3cr] Chem Engr Lab I
- CHEM E 437 [3cr] Chem Engr Lab II
- CHEM E 465 [4cr] Reactor Design
- CHEM E 480 [4cr] Process Dynamics & Control
- CHEM E 485 [4cr] Process Design I
- CHEM E 486 [5cr] Process Design II

Free Electives [5 Credits]

Total credits required for graduation [180]

Early Admission Requirements

1. Early Admission is an option for **AUTUMN QUARTER ONLY**.
2. Student **MUST** be enrolled at UW.
3. Math 124,125 & 126; or equivalent.
4. PHYS 121; CHEM 142, 152, & 162.
5. 5 credits of English Composition.
6. 15 of the above 30 credits **MUST** have been completed at the UW.