**Chemical Engineering Graduation Requirements**

**University of Washington**

www.cheme.washington.edu

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**Requirement Sheet Key**

♦ = Upper-Division Admission Requirements

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**ChemE Core Courses** *(51 Credits)*

- Chem E 310 (4cr) – Material and Energy Balances
- Chem E 325 (4cr) – Energy & Entropy [pr: Chem 144, Math 126, Phys 121]
- Chem E 326 (4cr) – Chem. Engineering 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. Engineering Lab I
- Chem E 437 (3cr) – Chem. Engineering Lab II
- Chem E 455 (3cr) – Surface and Colloid Science Lab
- Chem E 465 (4cr) – Reactor Design
- Chem E 480 (4cr) – Process Dynamics and Control
- Chem E 485 (5cr) – Process Design I
- Chem E 486 (5cr) – Process Design II

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**Mathematics** *(24 Credits)*

- ♦ Math 124 (5cr) – Calculus I
- ♦ Math 125 (5cr) – Calculus II
- ♦ Math 126 (5cr) – Calculus III
- ♦ Math 307 (3cr) – 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 may substitute for Math 307/308/309)

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**Sciences** *(44 Credits)*

- ♦ Chem 142 (5cr) – General Chemistry with lab
- ♦ Chem 152 (5cr) – General Chemistry with lab
- ♦ Chem 162 (5cr) – General Chemistry with lab
  
  (Chem 144 or 145 series can substitute for 124 series)
- Chem 237 (4cr) – Organic Chem or Chem 223 [pr: Chem 164]
- Chem 238 (4cr) – Organic Chem or Chem 224 [pr: Chem 237 or Chem 223]
- Chem 455 (3cr) – Physical Chem I [pr: Chem 164, Math 126, Phys 123]
- Chem 457 (3cr) – Physical Chem III

- ♦ 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]

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**Written & Oral Communications** *(12 Credits)*

- ♦ ENGL 131 (5cr) – English Composition (or approved University course)
- HCDE 231 (3cr) – Intro to Technical Writing [pr: Engl. Comp]
- HCDE 333 (4cr) – Adv. Tech Writing [pr: HCDE 231]
  - or- department approved elective

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**Visual, Literary & Performing Arts/Individuals & Society (VLPA/I&S)** *(24 Credits)*

Minimum 10 credits in VLPA required.
Minimum 10 credits in I&S required.
Remaining 4 credits can be either VLPA or I&S.

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**Engineering Fundamentals** *(20 Credits)*

- AMATH 301(4cr) – Beg. Scientific Computing *(preferred)*
- or-
- CSE 142 (4cr) – Computer Programming I

Electives (16cr) – See department for list of approved courses

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**Total Credits Required for Graduation** *(180 Credits)*

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**Early Admission Requirements**

1. Early Admission is an option for Autumn Quarter Only.
2. Students must be enrolled at UW-Seattle.
3. Math 124, 125 & 126 or equivalent.
4. PHYS 121, Chem 144, 154 and 164.
5. 5 credits of English Composition.
6. 15 of the above 30 credits must have been completed at UW.

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**Application Deadlines**

Early Admission – July 1st
Upper Division Admission – February 1st

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*Last revised July 2011*
# Chemical Engineering Sample Curriculum

**University of Washington**

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### Freshman – Autumn Quarter
- Math 124 – Calculus I 5
- Chem 142 – Chem & Lab I 5
- English Composition 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 – Chem & Lab III 5
- Phys 121 – Mechanics & Lab I 5

**Quarter Total:** 15

### Sophomore – Autumn Quarter
- Chem 237/223 – Organic Chem 4
- **Phys 122 – Electro & Lab I** 5
- **Math 307 – Diff. Equations** 3
- HCDE 231 - Intro to Tech. Writing 3

**Quarter Total:** 15

### Sophomore – Winter Quarter
- Chem 238/224 – Organic Chem 4
- Phys 123 – Waves & Lab I 5
- **Math 308 – Matrix Algebra** 3
- AMATH 301 – Sci. Computing 4

**Quarter Total:** 16

### Sophomore – Spring Quarter
- ChemE 310 – Mat/Engr Balance 4
- **Math 309 – Linear Analysis** 3
- HCDE 333 – Adv Technical Writing 3
- VLP&I&S 5

**Quarter Total:** 15

### Junior – Autumn Quarter
- ChemE 325 – Energy & Entropy 4
- Chem 455 – Phys Chem I 3
- Engineering Elective 4
- VLP&I&S 5

**Quarter Total:** 16

### Junior – Winter Quarter
- ChemE 326 – Thermodynamics 4
- ChemE 330 – Transport Process I 5
- Engineering Elective 4
- VLP&I&S 3

**Quarter Total:** 16

### Junior – Spring Quarter
- ChemE 340 – Transport Process II 4
- ChemE 436 - Chem E Lab 1 3
- Chem 457 – Phys Chem III 4
- VLP&I&S 4

**Quarter Total:** 14

### Senior – Autumn Quarter
- ChemE 435 – Transport Process III 4
- ChemE 455 – Colloid Lab 3
- ChemE 465 – Reactor Design 4
- FREE Elective 4

**Quarter Total:** 15

### Senior – Winter Quarter
- ChemE 437 – Chem Engr lab II 3
- ChemE 480 – Process Dynamics 4
- ChemE 485 – Process Design I 4
- Engineering Elective 3

**Quarter Total:** 14

### Senior – Spring Quarter
- ChemE 486 – Process Design II 5
- Engineering Elective 5
- VLP&I&S 2

**Quarter Total:** 12

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**Bold face** courses are required for upper-division admission.

*Math 307,308 & 309 may be substituted with AMATH 351, 352 & 353

See Chemical Engineering Advising Guide for list of engineering electives

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**For more information contact:**

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