# Chemical Engineering Program 2013/2014 (129 Hours)

UAHuntsville

Student A# | Student Name (Last, First MI)

| Semester, Transfer or AP | Grade | Course Number | Cr Hrs | Course Title | Prerequisites, Corequisites and/or Prerequisites with Concurrency | Offered: F=Fall S=Spring M=Summer |
|---|---|---|---|---|---|---|
| **English - 6 hours** | | | | | | |
| | | EH 101 | 3 | Freshman Composition I | Placement | FSM |
| | | EH 102 | 3 | Freshman Composition II | EH 101 | FSM |
| **Mathematics - 15 hours** | | | | | | |
| | | MA 171 | 4 | Calculus A | MA 113 or MA 115 or Level III Placement | FSM |
| | | MA 172 | 4 | Calculus B | MA 171 | FSM |
| | | MA 201 | 4 | Calculus C | MA 172 | FSM |
| | | MA 238 | 3 | Applied Differential Equations | Prereq w/Con: MA 201 | FSM |
| **Chemistry - 18 hours** | | | | | | |
| | | CH 121 | 3 | General Chemistry I | Plcmt or CH 101, MA 113 or 115, Prereq w/Con: MA 171, Coreq: CH 125 | FSM |
| | | CH 125 | 1 | General Chemistry Lab I | Coreq: CH 121 | FSM |
| | | CH 123 | 3 | General Chemistry II | CH 121, Prereq w/Con: CH 126 | FSM |
| | | CH 126 | 1 | General Chemistry Lab II | Coreq: CH 123 | FSM |
| | | CH 331 | 3 | Organic Chemistry I | CH 123, CH 126 | FSM |
| | | CH 335 | 1 | Organic Chemistry Lab I | Prereq w/Con: CH 331 | FSM |
| | | CH 332 | 3 | Organic Chemistry II | CH 331 | FSM |
| | | CH 341 | 3 | Physical Chemistry I | CH 123, MA 201, PH 112 | F |
| **Physics - 8 hours** | | | | | | |
| | | PH 111 | 3 | General Physics w/Calculus I | MA 171 | FSM |
| | | PH 114 | 1 | General Physics Lab I | Prereq w/Con: PH 111 | FSM |
| | | PH 112 | 3 | General Physics w/Calculus II | MA 172, PH 111 | FSM |
| | | PH 115 | 1 | General Physics Lab II | Prereq w/Con: PH 112 | FSM |
| **Biology - 3 hours** | | | | | | |
| | | BYS 311 | 3 | Intro to Molecular Biological Systems | CH 331 | S |
| **History, Social & Behavioral Sciences, Humaities & Fine Arts - 15 hours** | | | | | | |
| | | | 3 | HSBS | Choose 3 hours: History, Social or Behavior Science | FSM |
| | | | 3 | HFA | Choose 3 hours: Literature or Fine Art | FSM |
| | | | 3 | | Choose 3 hour courses of HSBS/HFA that you have met prerequisites, from ARH, ARS*, CM, EH, ECN*, FL, GS, GY, HY, MU, PHL, PSC, PY, SOC, WS | |
| | | | 3 | | | |
| | | | 3 | | | |
| **General Education Electives - 3 hours** | | | | | | |
| | | | | | Choose up to 3 hours of electives (Ex. FYE 101): Any courses that you have met prerequisites, and are not remedial coursework for Engineering curriculum. | |
| | | | | | | |
| | | | | | | |
| **Engineering Core - 12 hours** | | | | | | |
| | | CHE 244 | 3 | Intro to Chemical Engineering Systems | CH 123, PH 111, Prereq w/Con: CHE 198 | S |
| | | CHE 294 | 3 | Nature & Properties of Materials | CH 121, PH 111 | FM |
| | | EE 213 | 3 | Electrical Circuit Analysis I | PH 112, Prereq w/Con: MA 238 & (MA 244 or CHE 244) | FSM |
| | | MAE 271 | 3 | Statics | PH 111, Prereq w/Con: MA 201 | FSM |
| **Chemical Engineering Option - 40 hours** | | | | | | |
| | | CHE 197 | 2 | Intro to Chemical Engineering Processes | Level II Math Placement or Coreq: MA 112 | F |
| | | CHE 198 | 2 | Computational Tools for Chemical Engineers | CHE 197, Prereq w/Con: MA 113 | S |
| | | CHE 295 | 1 | Nature & Properties of Materials Lab | Prereq w/Con: CHE 294 | FM |
| | | CHE 342 | 3 | Transport Phenomena | CHE 244, Prereq w/Con: MAE 310 | S |
| | | CHE 344 | 3 | Chemical Engineering Thermodynamics | CHE 244, CH 341 | SM |
| | | MAE 310 | 3 | Fluid Mechanics I | MA 238, MAE/CE 271 & (MAE 111 or CPE 112 or CHE 198) | FSM |
| | | CHE 347 | 3 | Quantitative Modeling for Chemical Engrs | CHE 198, CHE 244, MA 238 | FM |
| | | CHE 439 | 3 | Unit Operations Lab I | CHE 295, Prereq w/Con: CHE 441, CHE 446 | F |
| | | CHE 440 | 2 | Unit Operations Lab II | CHE 439, CHE 441, CHE 443 | S |
| | | CHE 441 | 3 | Chemical Kinetics & Reactor Design | CHE 344, CHE 347 | F |
| | | CHE 443 | 3 | Mass Transfer Operations | CHE 342, CHE 344, MAE 310 | F |
| | | CHE 445 | 3 | Chemical Process Control | CHE 441 | S |
| | | CHE 446 | 3 | Analysis & Design of Transport Equipment | CHE 342, Prereq w/Con: CHE 443 | F |
| | | CHE 448 | 3 | Chemical Engineering Design | CHE 441, CHE 443, CHE 446, Prereq w/Con:CHE 445 | S |
| | | CHE 485 | 3 | Process Safety and Toxicology | Prereq w/Con: CHE 448 | S |
| **Chemical Engineering Electives - 9 hours** | | | | | | |
| Select One Concentration: Biotechnology | | CH 361 | 3 | General Biochemistry I | BYS 311, CH 332, CH 335 | FSM |
| | | CHE 460 | 3 | Introduction to Bioprocess Engineering | CH 361 | F |
| | | CHE 461 | 3 | Bioseparations | CHE 460 | S |
| Materials Engineering | | CH 440 | 3 | Polymer Synthesis & Characterization | CH 331 | F |
| | | CHE 494 | 3 | Applied Materials Engineering | CHE 294, CHE 344 | S |
| | | CHE 495 | 3 | Polymer Engineering | CH 341, CH 440 | F |

***All prerequisite classes must be completed with a "C" or higher grade.***
***The Catalog is the final authority for all degree requirements.***

Updated: 7/11/2013

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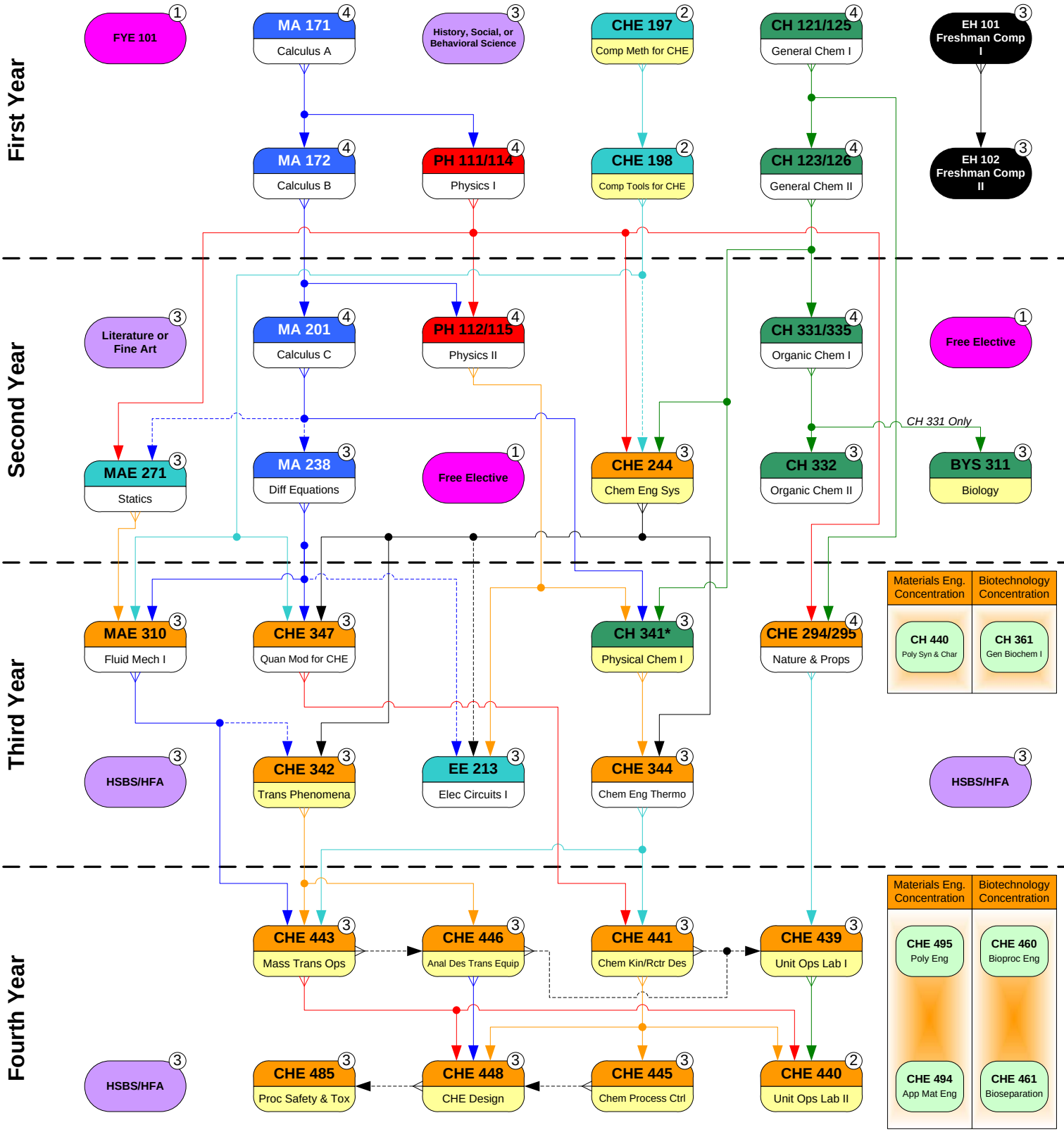


* Important for scheduling curriculum completion.

**Legend**

- Freshman Comp
- Mathematics
- Chemistry / Biology Core
- Physics
- History, Social, Behavior Science/Humanity & Fine Art
- Free Elective
- Engineering Core
- Chemical Eng. Option
- Offered only in that semester
- (3) Credit Hours
- → Prerequisite
- ⇢ Prereq w/concurrency

THE UNIVERSITY OF ALABAMA IN HUNTSVILLE

| Department | Prepared by | Date |
|---|---|---|
| Chemical & Materials | Jacob Kerstiens | 8/8/13 |
| Program | Approved by | Date |
| Chemical Engineering | | . |

# College of Engineering Pathways

## Chemical Engineering 2013-2014 Plan

| | Curriculum Pathway | Research Pathway | Internship Pathway | Co-op Pathway | |
|---|---|---|---|---|---|

### Miletone Year-1

| Curriculum Pathway | Co-op Pathway |
|---|---|
| [ ] 34 hours completed including: | [ ] Meet with Faculty to discuss pathway choices |
| MA 171, CH 121/125,CHE 197, | [ ] Meet with Career Development |
| HSBS/HFA, FYE 101, EH 101 | [ ] Attend Career Services Workshop on Resume |
| MA 172, PH 111/114, CHE 198, | [ ] Outline Resume |
| CH 123/126, EH 102 | [ ] Participate in Career Fair |

### Milestone Year-2

| Curriculum Pathway | Co-op Pathway |
|---|---|
| [ ] 64 hours completed including: | [ ] Meet with Faculty for Undergraduate research opportunities |
| MA 201, PH 112/115, | [ ] Attend Career Services Workshop on Interviews |
| CH 331/335, HSBS/HFA | [ ] Professional Resume |
| MA 238, CH 332, MAE 271 | [ ] Attend Career Fair |
| BYS 311, CHE 244 | [ ] Co-op/Internship Offer (Summer Start) |


### Milestone Year-3

| Research Pathway | Internship Pathway | Co-op Pathway |
|---|---|---|
| [ ] 99 hours completed including: | [ ] 99 hours completed from | [ ] Obtain Faculty Mentor |
| MAE 310, CHE 347, CH 341, | Curriculum Pathway | [ ] 90 hours completed including: |
| CHE 294, CHE 295, CHE Conc 1 | [ ] Summer Internship | Work Semester (Summer) |
| EE 213, CHE 342, CHE 344, | | CHE 347, CH 341, CHE 294, |
| HSBS/HFA, HSBS/HFA, Free Elec | | CHE 295, CHE Conc 1 (Fall) |
| [ ] Undergraduate Research | | Work Semester (Spring) |
| [ ] Attend JUMP Information Session | | MAE 310, CHE 344, |
| | | HSBS/HFA (Summer) |
| | | [ ] 2 Semesters of Co-op |

### Milestone Year-4

| Research Pathway | Internship Pathway | Co-op Pathway |
|---|---|---|
| [ ] 128 hours completed including: | [ ] 128 hours completed from | [ ] 100 hours completed including: |
| CHE 443, CHE 446, CHE 441, | Curriculum Pathway | Work Semester (Fall) |
| CHE 439, CHE Conc 2 | [ ] Summer Internship | CHE 342, EE 213, Free Elec, |
| CHE 485, CHE 448, CHE 445 | [ ] Senior Design Complete | HSBS/HFA, HSBS/HFA (Spring) |
| CHE 440, CHE Conc 3, HSBS/HFA | [ ] Degree Complete | Work Semester (Summer) |
| [ ] Undergraduate Research Complete | [ ] Begin Career or Graduate School | [ ] Experiential Learning complete |
| [ ] Senior Design Complete | | [ ] Decision on Industry |
| [ ] Degree Complete | | or Graduate School |
| [ ] Begin Career or Graduate School | | |

### Milestone Year-5

| Co-op Pathway |
|---|
| [ ] 129 hours completed including: |
| CHE 433, CHE 446, CHE 441 |
| CHE 439, CHE Conc 2 |
| CHE 485, CHE 448, CHE 445, |
| CHE 440, HSBS/HFA, CHE Conc 3 |
| [ ] Senior Design Complete |
| [ ] Degree Complete |
| [ ] Begin Career or Graduate School |

| | |
|---|---|
| Required | |
| Recommended | |