

# BS in Engineering Curriculum – CHPH Concentration

CHPH ENGR - TIER III: Math ACT of 25 or higher/Math SAT of 570 or higher

| Freshman Fall Semester |                                     |      | Freshman Spring Semester |                                      |      |
|------------------------|-------------------------------------|------|--------------------------|--------------------------------------|------|
| MATH 115               | Precalculus                         | 3    | MATH 122                 | Calculus I                           | 4    |
| ENGR 100               | Freshman Seminar                    | 1    | BIOL 111                 | Basic Biology & Lab                  | 4    |
| ENGR 120               | Foundations of Engineering Design I | 3    | ENGR 121                 | Foundations of Engineering Design II | 3    |
| ENGL 101               | Academic Writing                    | 3    | ENGL 102                 | Academic Writing & Literature        | 3    |
| CHEM 111               | General Chemistry I & Lab           | 4    | CHEM 113                 | General Chemistry II & Lab           | 4    |
| CUC 100                | Connections                         | 0.5  | CUC 100                  | Connections                          | 0.5  |
| Semester Total:        |                                     | 14.5 | Semester Total:          |                                      | 18.5 |

| Sophomore Fall Semester |                               |      | Sophomore Spring Semester |                           |      |
|-------------------------|-------------------------------|------|---------------------------|---------------------------|------|
| MATH 223                | Calculus II                   | 4    | MATH 224                  | Calculus III              | 4    |
| PHYS 251                | Physics I & Lab               | 4    | ENGR 260                  | Electrical Circuits & Lab | 4    |
| ENGR 220                | Statics/Strength of Materials | 3    | CHEM 228                  | Organic Chemistry II      | 4    |
| CHPH 215                | Mass and Energy Balances      | 3    | PE 185                    | Lifetime Wellness         | 2    |
| CHEM 227                | Organic Chemistry I           | 4    | ENGL 2xx                  | English Literature        | 3    |
|                         |                               |      | CUC 200                   | Connections               | 0.5  |
| Semester Total:         |                               | 18.0 | Semester Total:           |                           | 17.5 |

| Junior Fall Semester |                                     |      | Junior Spring Semester |  |      |
|----------------------|-------------------------------------|------|------------------------|--|------|
| MATH 337             | Differential Equations              | 3    | ENGR 320               | Fluids   | 3    |
| BIOL 280             | Biochemistry and Microbiology       | 4    | ENGR 240               | Engineering Materials & Processes                    | 4    |
| ENGR 380             | Thermodynamics                      | 3    | CHPH 325               | Thermodynamics II and Heat Transfer                  | 3    |
| ENGL 305             | Technical Writing and Presentations | 3    | CHPH 345               | Microbiological, Fermentation & Separation Processes | 2    |
| CHPH 315             | Transport Processes                 | 3    | CHPH 350               | Chemical Reaction Engineering                        | 2    |
|                      |                                     |      | ENGR 300               | Engineering Economics                                | 3    |
|                      |                                     |      | CUC 200                | Connections  | 0.5  |
| Semester Total:      |                                     | 16.0 | Semester Total:        |  | 17.5 |

| Senior Fall Semester |   |      | Senior Spring Semester         |                                   |      |
|----------------------|---|------|--------------------------------|-----------------------------------|------|
| ENGR 440             | Sensors & Controls & Lab                                      | 3    | ENGR 491                       | Senior Design II                  | 3    |
| HIST 111 or 112      | Western Civilization I or II                                  | 3    | ENGR 460                       | Statistical Methods for Engineers | 3    |
| ENGR 490             | Senior Design I   | 3    | HUM/FINE ARTS or SOC/BEH SCI   | Elective                          | 3    |
| CHPH 445             | Chemical Engineering Principles, Unit Operations & Validation | 4    | ART 131, MUSIC 131 or THEA 131 | Fine Arts                         | 3    |
| CHRS 125             | Introduction to Christianity                                  | 3    | ECON 201                       | Microeconomics                    | 3    |
|                      |   |      | HUM/FINE ARTS                  | Elective                          | 3    |
| Semester Total:      |   | 16.0 | Semester Total:                |                                   | 18.0 |
| Degree Total         |   |      |                                |                                   | 136  |

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## #ABET Requirements (2015-2016 Cycle)

Total Math and Science Hours: 46 (includes statistics for engineers but not pre-calc)

Total Engineering Hours: 53 (includes engineering economics)

1 year Math and Science: minimum of 32 hours

1.5 years Engineering: minimum of 48 hours

1 year = minimum of 32 hours or 0.25 of total credit hours

BOLD-FACED FONT – designates a course taught by the School of Engineering

BLUE BOX – indicates a course taken by both MECH and CHPH concentration students