# BSE – Bioprocess Engineering (BIOE) Concentration - 2016

Engineering: 43 core hours + 22 concentration hours

Math/Science : 32 hours

General: 31 hours

| FRESHMAN | SOPHOMORE | JUNIOR | SENIOR |
|---|---|---|---|
| ENGR 1012 (2) Engineering Graphics | ENGR 2022 (3) Statics | ENGR 3420 (2) Engineering Economics | ENGR 4010 (2) Capstone Design I |
| ENGR 1000 (1) Intro to Engineering | ENGR 2450 (3) Dynamics | ENGR 3000 (2) Engineering Design/PM II | ENGR 4020 (2) Capstone Design II |
| ENGR 1016 (2) Introduction to Engineering Design | ENGR 2000 (1) Engineering Design/PM I | ENGR 3024 (3) Mechanics of Materials | ENGR 3800 (3) Quality Control for Engineers |
| ENGR 2050 (3) Computer Applications in Engineering | ENGR 2070 (3) Materials and Processes | CHEM 1160/1161 (4) General Chemistry II | CHEM 2750/2753 (4) Organic Chemistry I |
| ENGR 3034 (4) Thermal and Fluid Systems | BIOE 4006 (2) Bioprocess Engr. Validation And Quality | BIOE 3250 (3) Bioprocess Engineering Systems | BIOE 4010 (3) Bioprocess Separation Engineering |
| BIOE 4020 (3) Bioprocess Plant Design, Sim. & Analysis | MATH 2151 (3) Calculus I | MATH 2152 (3) Calculus II | MATH 2153 (3) Calculus III |
| MATH 2154 (4) Linear Algebra & Diff. Eqns. | ENGR 2514 (4) Circuit Analysis | ENGR 3050 (3) Sensors Measurements and Controls | BIOL 1050/1051 (4) General Biology or 1100/1101 Prin. of Biology I |
| CHEM 1150/1151 (4) General Chemistry I | MATH 3307 (3) Engineering Statistics | BIOE 3013 (3) Microbiology For Engineers | Social Sciences Elective (3) |
| HLTH 1000 (2) Health in Modern Society | Humanities/ Fine Arts Elective (3) | ENGL 1100 (3) Composition | ENGL 2201 (3) Writing about the Disciplines |
| PHYS 2350 (4) University Physics I | PHYS 2360 (4) University Physics II | KINE 1000 (1) Lifetime Physical Activity | Humanities/ Fine Arts Elective (2) |
| Humanities/ Fine Arts Elective (2) | Social Sciences Elective (3) | Social Sciences Elective (3) | Humanities/ Fine Arts Elective (3) |
| Social Sciences Elective (3) | | | |

Dashed border denotes minimum grade of C required

Bold border denotes class with lab

P/C: MATH 1083 or higher

MATH 1083 or Placement test

P/C: PHYS 2350
P: MATH 2152*

MATH 3307

MATH 2152 *

ENGR 2000

ENGR 3420
BIOE 3013 & 3250

ENGL 2201
CHEM 1150

CHEM 1150*,1151

ENGR 2022*
ENGR 2070

P/C: MATH 2154

BIOE 3250
MATH 3307

P/C: PHYS 2360

BIOE 3013

MATH 3307

ENGR 2050

P/C: CHEM 2750 & 2753
P: ENGR 2450*

MATH 2154

MATH 2152

P/C = pre- or co-requisite
* = C or better required

Credit hours per Semester

Cumulative Credit hours

16 | 15/31 | 17/48 | 18/66 | 17/83 | 17/100 | 14/114 | 14/128

***Note: This chart is for planning purposes only. It is the student's responsibility to ensure that requirements as detailed in the Undergraduate Catalog are met.***

***Humanities/Fine Arts: Must complete at least one course in the humanities and one course in fine arts.***

***Diversity: At least one elective course must be designated as GD (Global Diversity) or DD (Domestic Diversity).***

Revision Date: 04/25/16