

# Chemical Engineering – Chemical Process

| 1 <sup>st</sup> YEAR     | Session | Course  | Chemical Engineering – Chemical Process           | SH        | Pre-Requisite or /Co-Requisite                     |
|--------------------------|---------|---------|---|-----------|--|
| 1 <sup>st</sup> Semester | All     | 22M:031 | Engineering Math I – Single Variable Calculus     | 4         | P: H.S. Algebra & Trigonometry                     |
|                          | F       | 59:005  | Engineering Problem Solving I                     | 3         |  |
|                          | All     | 4:011   | Principles of Chemistry I                         | 4         |  |
|                          | All     | 10:003  | Accelerated Rhetoric (or 10:001 & 10:002)         | 4         |  |
|                          | F       | 52:090  | First-year Engineering Seminar                    | 1         |  |
| <b>Total</b>             |         |         |   | <b>16</b> |  |
| 2 <sup>nd</sup> Semester | All     | 22M:032 | Engineering Math II – Multivariable Calculus      | 4         | P: 22M:031   |
|                          | S       | 59:006  | Engineering Problem Solving II                    | 3         | C: 22M:031   |
|                          | F/S     | 29:081  | Introductory Physics I                            | 4         | C: 22M:031   |
|                          | All     | 22M:033 | Engineering Math III – Matrix Algebra             | 2         | C: 22M:032   |
|                          | All     | 4:012   | Principles of Chemistry II                        | 4         | P: 4:011   |
|                          | S       | 52:090  | CBE Departmental Seminar                          | 0         |  |
| <b>Total</b>             |         |         |   | <b>17</b> | <b>(1-year total = 33)</b>                         |
| 1 <sup>st</sup> Semester | All     | 22M:034 | Engineering Math IV – Differential Equations      | 3         | P: 22M:033   |
|                          | All     |         | General Education Component #1                    | 3         |  |
|                          | All     | 59:007  | Fundamentals of Engineering I – Statics           | 2         | P: 22M:031; C: 29:081                              |
|                          | All     | 59:008  | Engineering Fundamentals II – Electrical Circuits | 3         | C: 22M:034   |
|                          | All     | 59:009  | Engineering Fundamentals III – Thermodynamics     | 3         | P: 22M:031, 4:011, 29:081                          |
|                          | F       | 52:041  | Process Calculations                              | 3         | P: 22M:031   |
| <b>Total</b>             |         |         |   | <b>17</b> |  |
| 2 <sup>nd</sup> Semester | S       | 52:103  | ChE Thermodynamics                                | 3         | P: 59:009; C: 52:041                               |
|                          | S       | 52:151  | Engineering Flow and Heat Exchange                | 3         | C: 52:041  |
|                          | All     | 4:121   | Organic Chemistry I                               | 3         | P: 4:012   |
|                          | All     |         | General Education Component #2                    | 3         |  |
|                          | All     | 22S:039 | Elective #1: Prob. & Stat. Engr. Phys. Sci.       | 3         | P: 22M:032   |
|                          | F/S     | 52:091  | CBE Professional Seminar                          | 0         | P: 52:041  |
| <b>Total</b>             |         |         |   | <b>15</b> | <b>(2 year total = 65)</b>                         |
| 1 <sup>st</sup> Semester | F       | 52:161  | Mass Transfer and Separations                     | 3         | P: 52:103, 52:151                                  |
|                          | F       | 52:171  | Thermodynamics/Transport Laboratory               | 3         | P: 52:103; 52:151; C: 52:161; R: Statistics Course |
|                          | All     | 4:122   | Organic Chemistry II                              | 3         | P: 4:121   |
|                          | All     | 4:141   | Organic Chemistry Laboratory                      | 3         | P: 4:121; C: 4:122                                 |
|                          | All     |         | General Education Component #3                    | 3         |  |
|                          | F/S     | 52:091  | CBE Professional Seminar                          | 0         | P: 52:041  |
| <b>Total</b>             |         |         |   | <b>15</b> |  |
| 2 <sup>nd</sup> Semester | S       | 52:105  | Chemical Reaction Engineering                     | 3         | P: 52:161  |
|                          | S       | 52:172  | Chemical Reaction Engineering/Separation Lab.     | 2         | P: 52:161; 52:171; C: 52:105                       |
|                          | S       | 52:187  | Chemical Process Safety                           | 3         | P: 52:151; 52:161; C: 52:105                       |
|                          | All     |         | Elective #2: Additional Elective                  | 3         |  |
|                          | All     |         | Elective #3: Additional Elective                  | 3         |  |
|                          | All     |         | General Education Component #4                    | 3         |  |
|                          | F/S     | 52:091  | CBE Professional Seminar                          | 0         | P: 52:041  |
| <b>Total</b>             |         |         |   | <b>17</b> | <b>(3 year total = 97)</b>                         |
| 1 <sup>st</sup> Semester | F       | 52:185  | Process Dynamics & Control                        | 3         | P: 52:105  |
|                          | F       |         | Advanced Chemical Science Elective #1             | 3         |  |
|                          | F       | 52:173  | Senior Laboratory Experience                      | 2         | P: 52:172  |
|                          | All     |         | Elective #4: Additional Elective (100 level)      | 3         |  |
|                          | All     |         | Elective #5: Additional Elective                  | 3         |  |
|                          | All     | 57:015  | Materials Science                                 | 3         | P: 4:011; C: 22M:031                               |
|                          | F/S     | 52:091  | CBE Professional Seminar                          | 0         | P: 52:041  |
| <b>Total</b>             |         |         |   | <b>17</b> |  |
| 2 <sup>nd</sup> Semester | S       | 52:186  | Chemical Engineering Process Design               | 3         | P: 52:105, 52:161; R: 52:185, 52:187               |
|                          | S       |         | Advanced Chemical Science Elective #2             | 3         |  |
|                          | S       |         | Advanced Chemical Science Elective #3: Lab        | 3         |  |
|                          | All     |         | Elective #6: Additional Elective                  | 3         |  |
|                          | All     |         | General Education Component #5                    | 3         |  |
|                          | F/S     | 52:092  | Enriching Activities Seminar                      | 0         | C: 52:186  |
| <b>Total</b>             |         |         |   | <b>15</b> | <b>(4 year total = 129)</b>                        |