



## Chemical Engineering Department

### Degree Plan & Flow Chart

## Vision

To be recognized for outstanding education, quality research and engaged community service nationally and regionally.

## Mission

To provide students with excellent quality education and training in order to satisfy the growing need for Chemical Engineering graduates in the kingdom's key industrial sectors (Oil & Gas, Cement, Petrochemical, Food, Renewable Energy etc.)



| First Year (Freshman)                    |     |                                       |    |    |    |             |     |                                   |    |    |    |
|------------------------------------------|-----|---------------------------------------|----|----|----|-------------|-----|-----------------------------------|----|----|----|
| Course Code                              |     | Title                                 | LC | LB | CR | Course Code |     | Title                             | LC | LB | CR |
| MATH                                     | 101 | Calculus I                            | 4  | 0  | 4  | MATH        | 102 | Calculus II                       | 4  | 0  | 4  |
| CHEM                                     | 101 | General Chemistry I                   | 3  | 4  | 4  | CHEM        | 102 | General Chemistry II              | 3  | 4  | 4  |
| PHYS                                     | 101 | General Physics I                     | 3  | 3  | 4  | PHYS        | 102 | General Physics II                | 3  | 3  | 4  |
| ENGL                                     | 101 | An Introduction to Academic Discourse | 3  | 0  | 3  | ENGL        | 102 | Introduction to Report Writing    | 3  | 0  | 3  |
| CSE                                      | 103 | Computer Program in C                 | 2  | 3  | 3  | IAS         | 101 | Practical Grammar                 | 2  | 0  | 2  |
| PE                                       | 101 | Health and Physical Education I       | 0  | 2  | 1  | PE          | 102 | Health and Physical Education II  | 0  | 2  | 1  |
|                                          |     |                                       | 15 | 12 | 19 |             |     |                                   | 15 | 9  | 18 |
| Second Year (Sophomore)                  |     |                                       |    |    |    |             |     |                                   |    |    |    |
| Course Code                              |     | Title                                 | LC | LB | CR | Course Code |     | Title                             | LC | LB | CR |
| CHE                                      | 201 | Principles of Chem. Engg.             | 3  | 0  | 3  | CHE         | 203 | Chem. Engg. Thermo. I             | 2  | 0  | 2  |
| CHEM                                     | 221 | Organic Chemistry I                   | 3  | 4  | 4  | CHE         | 204 | Process Fluid Mechanics           | 3  | 3  | 4  |
| MATH                                     | 201 | Calculus III                          | 3  | 0  | 3  | BIOL        | 233 | Biology for Engineers             | 2  | 3  | 3  |
| ENGL                                     | 214 | Academic & Professional Communication | 3  | 0  | 3  | MATH        | 202 | Elementary Differential Equation  | 3  | 0  | 3  |
| IAS                                      | 111 | Belief and its Consequences           | 2  | 0  | 2  | IAS         | 201 | Writing for Professional Needs    | 2  | 0  | 2  |
| ME                                       | 216 | Materials Science & Eng.              | 3  | 3  | 4  | XXX         | xxx | Free Elective I                   | 3  | 0  | 3  |
|                                          |     |                                       | 17 | 7  | 19 |             |     |                                   | 15 | 6  | 17 |
| Third Year (Junior)                      |     |                                       |    |    |    |             |     |                                   |    |    |    |
| Course Code                              |     | Title                                 | LC | LB | CR | Course Code |     | Title                             | LC | LB | CR |
| CHE                                      | 300 | Process Heat Transfer                 | 3  | 3  | 4  | CHE         | 306 | Stagewise Separations             | 3  | 3  | 4  |
| CHE                                      | 303 | Chem. Engg. Thermo. II                | 3  | 0  | 3  | CHE         | 307 | Process Dynamics and Cont.        | 3  | 0  | 3  |
| CHE                                      | 304 | Mass Transfer                         | 3  | 0  | 3  | CHE         | 308 | Kinetics and Reactor Design       | 3  | 3  | 4  |
| CHEM                                     | 312 | Physical Chemistry II                 | 3  | 4  | 4  | CHE         | xxx | Chem. Engg. Elective I            | 3  | 0  | 3  |
| MATH                                     | 321 | Intro. Numerical Computing            | 3  | 0  | 3  | XXX         | xxx | Free Elective II                  | 3  | 0  | 3  |
| IAS                                      | 212 | Professional Ethics                   | 2  | 0  | 2  | IAS         | 301 | Oral Communication Skills         | 2  | 0  | 2  |
|                                          |     |                                       | 17 | 7  | 19 |             |     |                                   | 17 | 6  | 19 |
| Summer Session                           |     |                                       |    |    |    | CHE         | 350 | Cooperative Work                  | 0  | 0  | 0  |
| Fourth Year (Senior)                     |     |                                       |    |    |    |             |     |                                   |    |    |    |
| Course Code                              |     | Title                                 | LC | LB | CR | Course Code |     | Title                             | LC | LB | CR |
| CHE                                      | 351 | Cooperative Work (Cuntinued)          | 0  | 0  | 6  | CHE         | 415 | Computer Aided Process Design Lab | 1  | 3  | 2  |
|                                          |     |                                       |    |    |    | CHE         | 425 | Process Design and Econ.          | 3  | 0  | 3  |
|                                          |     |                                       |    |    |    | CHE         | 495 | Integrated Design Course          | 1  | 6  | 3  |
|                                          |     |                                       |    |    |    | CHE         | xxx | Chem. Eng. Elective II            | 3  | 0  | 3  |
|                                          |     |                                       |    |    |    | CHE         | xxx | Chem. Eng. Elective III           | 3  | 0  | 3  |
|                                          |     |                                       |    |    |    | IAS         | 322 | Human Rights in Islam             | 2  | 0  | 2  |
|                                          |     |                                       | 0  | 0  | 6  |             |     |                                   | 13 | 9  | 16 |
| Total Credit Hours of CHE Program is 133 |     |                                       |    |    |    |             |     |                                   |    |    |    |



\* COOP Training Requirements:

- i - UHB Requirements: Completion of 85 Credit Hrs & ENGL 214
- ii- CHE Dept. Requirements : Completion of (CHE 306)

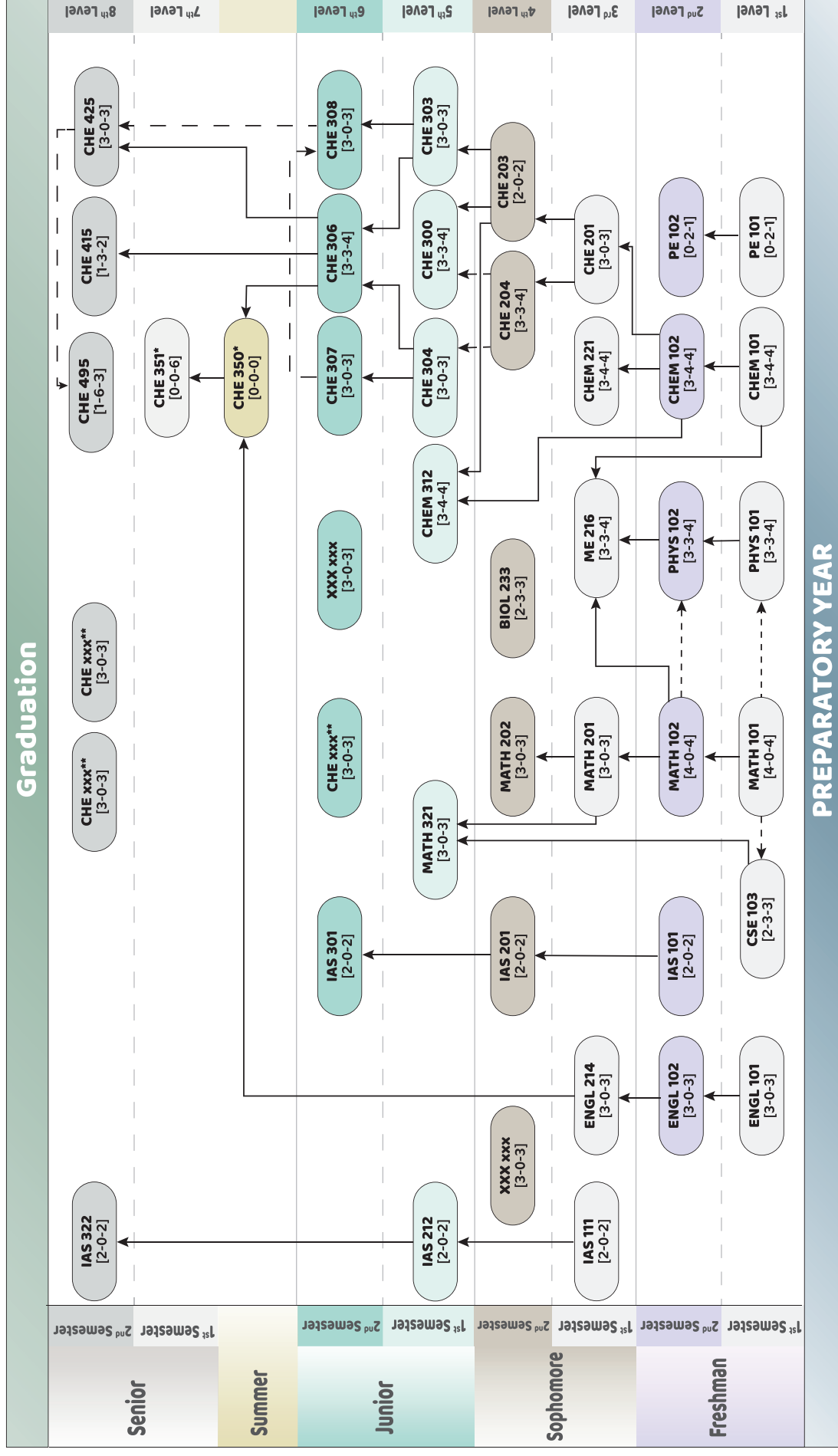
\*\* CHE Elective Courses

XX xxx Technical Elective Courses  
[Lecture - Lab - Credit Hrs ]

Freshman Credit Hrs: 37 Credit Hrs  
Sophomore Credit Hrs: 36 Credit Hrs  
Junior Credit Hrs: 38 Credit Hrs  
Senior Credit Hrs: 22 Credit Hrs  
Total CHE B.Sc. Degree Program Credit Hrs: 133 Credit Hrs

→ Pre-requisites

- - - - -> Co-requisites



# **COE Handbook**



# **Students Advising List**

