

**المقررات الدراسية لقسم الهندسة الكيميائية**  
**Academic Courses for Chemical Engineering Department**

**A. Compulsory Chemical Engineering Courses:** المقررات الهندسية الملزمة للهندسة الكيميائية

**Second Year**

| Third Semester Courses |                           |        |       |              |          |           |              |
|------------------------|---------------------------|--------|-------|--------------|----------|-----------|--------------|
| No                     | Course Name               | Code   | Units | Weekly Hours |          |           | Prerequisite |
|                        |                           |        |       | Lecture      | Tutorial | Practical |              |
| 1                      | Physical Chemistry        | ChE200 | 3     | 3            | 1        | -         | GS135        |
| 2                      | Physical Chemistry Lab    | ChE201 | 1     | -            | -        | 2         |              |
| 3                      | Introduction to Chem. Eng | ChE210 | 3     | 3            | 1        | -         |              |
| 4                      | Engineering Workshop      | GE244  | 2     | 1            | -        | 2         |              |
| 5                      | Computer Science          | GS228  | 3     | 2            | -        | 2         |              |
| 6                      | Mathematics III           | GS222  | 3     | 3            | 1        | -         | GS121        |
| 7                      | Descriptive Geometry      | GE243  | 2     | 1            | -        | 2         | GE142        |
|                        |                           |        | 17    |              |          |           |              |

| Fourth Semester Courses |                            |        |       |              |          |           |              |
|-------------------------|----------------------------|--------|-------|--------------|----------|-----------|--------------|
| No                      | Course Name                | Code   | Units | Weekly Hours |          |           | Prerequisite |
|                         |                            |        |       | Lecture      | Tutorial | Practical |              |
| 1                       | National Culture           | GH214  | 2     | 2            | -        | -         | GH111        |
| 2                       | Chemical Eng. Calculations | ChE211 | 3     | 3            | 1        | -         | ChE210       |
| 3                       | Thermodynamics I           | ChE212 | 3     | 3            | 1        | -         | ChE200       |
| 4                       | Mathematics IV             | GS223  | 3     | 3            | 1        | -         | GS222        |
| 5                       | Strength of Material       | ME201  | 3     | 3            | 1        | -         | GE140        |
| 6                       | Technical Report Writing   | GH218  | 1     | 2            | -        | -         | GH113        |
|                         |                            |        | 15    |              |          |           |              |

## Third Year

| Fifth Semester Courses |                              |        |       |              |          |           |              |
|------------------------|------------------------------|--------|-------|--------------|----------|-----------|--------------|
| No                     | Course Name                  | Code   | Units | Weekly Hours |          |           | Prerequisite |
|                        |                              |        |       | Lecture      | Tutorial | Practical |              |
| 1                      | Industrial Organic Chemistry | ChE301 | 2     | 2            | -        | -         | ChE200       |
| 2                      | Industrial Org. Chem. Lab    | ChE303 | 1     | -            | -        | 2         | ChE301       |
| 3                      | Thermodynamics II            | ChE313 | 3     | 3            | 1        | -         | ChE212       |
| 4                      | Numerical Methods in Chem.   | ChE314 | 3     | 2            | -        | 2         | GS226        |
| 5                      | Fluid Mechanics I            | ChE320 | 3     | 3            | 1        | -         | ChE210       |
| 6                      | Heat Transfer I              | ChE323 | 3     | 3            | 1        | -         | ChE210       |
| 7                      | Statistical Probability      | GS324  | 3     | 3            | 1        | -         | GS222        |
|                        |                              |        | 18    |              |          |           |              |

| Sixth Semester Courses |                            |        |       |              |          |           |               |
|------------------------|----------------------------|--------|-------|--------------|----------|-----------|---------------|
| No                     | Course Name                | Code   | Units | Weekly Hours |          |           | Prerequisite  |
|                        |                            |        |       | Lecture      | Tutorial | Practical |               |
| 1                      | Instrumental Analysis      | ChE302 | 2     | 2            | -        | -         | ChE200        |
| 2                      | Instrumental Analysis Lab  | ChE304 | 1     | -            | -        | 2         | ChE302        |
| 3                      | Fluid Mechanics II         | ChE321 | 2     | 2            | 1        | -         | ChE320        |
| 4                      | Unit operations            | ChE322 | 2     | 2            | 1        | -         | ChE320        |
| 5                      | Heat Transfer II           | ChE324 | 2     | 2            | 1        | -         | ChE323        |
| 6                      | Mass Transfer I            | ChE325 | 3     | 3            | 1        | -         | ChE211        |
| 7                      | Chemical Technology        | ChE340 | 3     | 3            | 1        | -         | ChE301        |
| 8                      | Chemical Engineering lab I | ChE326 | 2     | -            | -        | 4         | ChE321,ChE324 |
|                        |                            |        | 17    |              |          |           |               |

## Fourth Year

| Seventh Semester Courses |                             |        |       |              |          |           |               |
|--------------------------|-----------------------------|--------|-------|--------------|----------|-----------|---------------|
| No                       | Course Name                 | Code   | Units | Weekly Hours |          |           | Prerequisite  |
|                          |                             |        |       | Lecture      | Tutorial | Practical |               |
| 1                        | Mass Transfer II            | ChE426 | 3     | 3            | 1        | -         | ChE325        |
| 2                        | Chemical engineering Lab II | ChE427 | 2     | -            | -        | 4         | ChE322,ChE426 |
| 3                        | Chemical Reaction Eng. I    | ChE430 | 3     | 3            | 1        | -         | ChE313        |
| 4                        | Plant Design I              | ChE450 | 3     | 3            | 1        | -         | ChE324,ChE325 |
| 5                        | Engineering Materials       | ChE452 | 3     | 3            | 1        | -         | ME201         |
|                          | Process Instrumentation     | ChE460 | 2     | 2            | 1        | -         | ChE321,ChE324 |
|                          |                             |        | 16    |              |          |           |               |

| Eighth Semester Courses |                              |        |       |              |          |           |                |
|-------------------------|------------------------------|--------|-------|--------------|----------|-----------|----------------|
| No                      | Course Name                  | Code   | Units | Weekly Hours |          |           | Prerequisite   |
|                         |                              |        |       | Lecture      | Tutorial | Practical |                |
| 1                       | Mathematical Methods         | ChE415 | 3     | 3            | 1        | -         | ChE314         |
| 2                       | Chemical Reaction Eng. II    | ChE431 | 2     | 3            | 1        | -         | ChE430         |
| 3                       | Petroleum Processing         | ChE442 | 2     | 2            | 1        | -         | ChE340         |
| 4                       | Petroleum Processing Lab     | ChE443 | 1     | -            | -        | 2         | ChE442         |
| 5                       | Plant Design II              | ChE451 | 3     | 3            | 1        | -         | ChE450         |
| 6                       | Process Equipment Design     | ChE453 | 3     | 3            | 1        | -         | ChE452         |
| 7                       | Process Control              | ChE461 | 2     | 3            | 1        | -         | ChE460         |
| 8                       | Chemical engineering Lab III | ChE462 | 2     | -            | -        | 4         | ChE431, ChE460 |
|                         |                              |        | 18    |              |          |           |                |

## Fifth Year

| Ninth Semester Courses |                            |        |       |              |          |           |               |
|------------------------|----------------------------|--------|-------|--------------|----------|-----------|---------------|
| No                     | Course Name                | Code   | Units | Weekly Hours |          |           | Prerequisite  |
|                        |                            |        |       | Lecture      | Tutorial | Practical |               |
| 1                      | Petrochemical Technology   | ChE542 | 3     | 3            | 1        | -         | ChE442        |
| 2                      | Modelling and Simulation   | ChE554 | 3     | 2            | -        | 2         | ChE426,ChE451 |
| 3                      | Industrial Management      | ChE570 | 2     | 2            | 1        | -         | ChE450        |
| 4                      | Safety and Loss Prevention | ChE571 | 2     | 2            | 1        | -         | ChE442        |
| 5                      | Final Project              | ChE599 | 0     | -            | 2        |           |               |
|                        |                            |        | 10    |              |          |           |               |

| Tenth Semester Courses |                 |        |       |              |          |           |              |
|------------------------|-----------------|--------|-------|--------------|----------|-----------|--------------|
| No                     | Course Name     | Code   | Units | Weekly Hours |          |           | Prerequisite |
|                        |                 |        |       | Lecture      | Tutorial | Practical |              |
| 1                      | Seminar         | ChE544 | 1     | -            | 1        | -         |              |
| 2                      | Plant Utilities | ChE572 | 2     | 2            | 1        | -         | ChE451       |
| 3                      | Elective Course |        | 3     | 3            | 1        | -         |              |
| 4                      | Final Project   | ChE599 | 4     | -            | 2        | -         |              |
|                        |                 |        | 10    |              |          |           |              |

**B. Elective Courses for Chemical Engineering**

الهندسية الاختيارية المقررات للهندسة  
الكيميائية (يتم اختيار مقرر واحد بـ 3 وحدات)

| No.   | Course Name           | Designation | Units | عنوان المقرر          |
|-------|-----------------------|-------------|-------|-----------------------|
| 1.    | Corrosion Engineering | ChE573      | 3     | هندسة التآكل          |
| 2.    | Water Treatment       | ChE575      | 3     | معالجة المياه         |
| 3.    | Air Pollution Control | ChE574      | 3     | التحكم في تلوث الهواء |
| Total |                       |             | 3     | إجمالي عدد الوحدات    |