|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Surname |  | Initials |  | Student No |  |

**(a) Chemical Engineering (12130021)**

**First year of study**

**First semester**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Module** | | **Credits** | **Prerequisites** |  |  |  |  |
| **Fundamental** |  |  |  |  |  |  |  |
| UPO 112 | Academic orientation 112 | 1 |  |  |  |  |  |
| **Core** |  |  |  |  |  |  |  |
| CHM 171 | General chemistry 171 | 16 |  |  |  |  |  |
| CIR 113 | Chemical engineering 113 | 8 |  |  |  |  |  |
| FSK 116 | Physics 116 | 16 |  |  |  |  |  |
| HAS 110 | Humanities and social sciences 110 | 8 |  |  |  |  |  |
| MGC 110 | Graphical communication 110 | 16 |  |  |  |  |  |
| WTW 158 | Calculus 158 | 16 |  |  |  |  |  |
|  | **Total** | **80** |  |  |  |  |  |

**Second semester**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| CHM 181 | General chemistry 181 | 16 | CHM 171 |  |  |  |  |
| CIR 123 | Chemical engineering 123 | 8 | CHM 171GS, CIR 113 |  |  |  |  |
| EBN 122 | Electricity and electronics 122 | 16 |  |  |  |  |  |
| HAS 120 | Humanities and social sciences 120 | 8 |  |  |  |  |  |
| SWK 122 | Mechanics 122 | 16 | WTW 158 |  |  |  |  |
| WTW 164 | Mathematics 164 | 16 | WTW 158 GS |  |  |  |  |
|  | **Total** | **80** |  |  |  |  |  |

**Recess training**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| WWP 121 | Workshop practice 121 | 6 |  |  |  |  |  |

**Second year of study**

**First semester**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Module** | | **Credits** | | **Prerequisites** |  |  |  |  |
| CHM 215 | Chemistry 215 | 12 | | CHM 171/172, 181 |  |  |  |  |
| CIR 211 | Chemical engineering 211 | 12 | | CIR 123 |  |  |  |  |
| CIM 210 | Chemical engineering materials 210 | 8 | | CHM 181 |  |  |  |  |
| JCP 203 | Community-based project 203 | 8 | |  |  |  |  |  |
| MPR 213 | Programming and information technology 213 | | 16 |  |  |  |  |  |
| SWK 210 | Strength of materials 210 | 16 | | SWK122,  WTW 164/  WTW 161, 168 |  |  |  |  |
| WTW 256 | Differential equations 256 | 8 | | WTW 158, WTW 164/ WTW 161, 168 |  |  |  |  |
| WTW 258 | Calculus 258 | 8 | | WTW 158, WTW 164/ WTW 161, 168 |  |  |  |  |
|  | **Total** | **88** | |  |  |  |  |  |

**Second semester**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| BES 220 | Engineering statistics 220 | 8 |  |  |  |  |  |
| CHM 226 | Chemistry 226 | 8 | CHM 171/172, 181 |  |  |  |  |
| CTD 223 | Thermodynamics 223 | 16 | CIR 211, MPR 212/213  (WTW 258) |  |  |  |  |
| EIR 221 | Electrical engineering 221 | 16 | EBN 111/122 |  |  |  |  |
| WTW 238 | Mathematics 238 | 16 | WTW 258 GS,  WTW 256 |  |  |  |  |
| WTW 263 | Numerical methods 263 | 8 | WTW 164/  WTW 161, 168 |  |  |  |  |
|  | **Total** | **72** |  |  |  |  |  |

**Third year of study**

**First semester**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Module** | | **Credits** | **Prerequisites** |  |  |  |  |
| BSS 310 | Engineering management 310 | 8 |  |  |  |  |  |
| CIR 310 | Chemical engineering 310 | 8 | (CTD 223), CHM 215 |  |  |  |  |
| CJJ 310 | Professional and technical communication 310 | 8 | CIR 123 |  |  |  |  |
| CMO 310 | Mass transfer 310 | 16 | (CTD 223), COP 311# |  |  |  |  |
| COP 311 | Transfer processes 311 | 16 | WTW 238, (WTW 263) |  |  |  |  |
| CBI 310\* | Biochemical Engineering 310 | 16 | (CIR 211), (CHM 215) |  |  |  |  |
|  | **Total** | **72** |  |  |  |  |  |

\***Please note:** Students who have passed CBI 311, receive credit for CBI 410/310

**\*Please note:** Students who have passed CBI 410, receive credit for CBI 310.

**Second semester**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| CIO 320 | Chemical engineering design 320 | 16 | (CTD 223), SWK210, (COP 311) |  |  |  |  |
| CKN 321 | Kinetics 321 | 16 | (CTD 223) |  |  |  |  |
| CLB 321 | Laboratory 321 | 16 | CJJ 210/CJJ 310, CHM 226, CPN 321#, CKN 321# (CMO 320/310), CIO 320/310# |  |  |  |  |
| CPN 321 | Process dynamics 321 | 16 | CIO 310/320#, CKN 321# |  |  |  |  |
| MIA 320 | Engineering activity and group work 320 | 8 | (CJJ310), (BSS 310) |  |  |  |  |
|  | **Total** | **72** |  |  |  |  |  |

**Recess training**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| CPY 311 | Practical training 311 | 16 | (CIR 211) |  |  |  |  |

**Fourth year of study**

**First semester**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Module** | | **Credits** | **Prerequisites** |  |  |  |  |
| CPA 410\* | Particle technology 410 | 16 | (COP 311) |  |  |  |  |
| CPB 410 | Process control 410 | 16 | CPN 321 GS |  |  |  |  |
| CPS 410 | Process synthesis 410 | 8 | CLB 321, CIR 310 GS |  |  |  |  |
| CRO 410 | Reactor design 410 | 16 | CKN 321 GS |  |  |  |  |
| CSC 411 | Research project 411 | 16 | CLB 321, CPB 410#, CRO 410# |  |  |  |  |
|  | **Total** | **72** |  |  |  |  |  |

\***Please note**: Students who have already passed CPA 310, receive credit for CPA 410.

**Second semester**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| CPJ 421 | Design project 421 | | 24 | (CPB 410), (CRO 410), BIE 310/BSS 310, CIO320, CPS 420#, CPR 420# |  |  |  |  |
| CPR 420 | Chemical engineering practice 420 | | 8 | CLB 321 |  |  |  |  |
| CPS 420 | Process analysis 420 | | 8 | CPS 410 |  |  |  |  |
| CSC 421 | Research project 421 | | 16 | CSC 411 |  |  |  |  |
| CSS 420 | Specialisation 420 | 16 | | CPJ 421# |  |  |  |  |
|  | **Total** | | **72** |  |  |  |  |  |

**Recess training**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| CPY 411 | Practical training 411 | 16 | (CMO 320/310), CPY 311 |  |  |  |  |