

**Bachelor of Science in Chemical Engineering-Water Technology Concentration  
Study Plan (Fall Start)**

**Total Credit Hours: 136**

**First Year (Freshman)**

Semester 1

Code	Title	Cr.	Prerequisite
ARL 100	Communication Skills in Arabic I	3	None
ENG 200	English 2	3	EPT/ or Passing grade in ENG102
CME 200	Introduction to Chemical Engineering	3	None
STT 100	General Statistics	3	None
MTT 102	Calculus 1	3	C grade in MTT 101 or MPT

**Total Credit Hours 15**

Semester 2

Code	Title	Cr.	Prerequisite
COE 102	Introductory Big Data Analytics	3	STT 100
PHY 102	Physics and Engineering Applications I	3	MTT 102
PHY 102L	Physics and Engineering Applications I Lab	1	MTT 102 + PHY 102 (co-req)
MTT 200	Calculus 2	3	MTT 102
CHE 205	General Chemistry I	3	(Co) ENG102/ENG200
CHE 201L	Chemistry Lab	1	CHE 205 (co-req)
CME 210	Principles of Chemical Engineering	4	CHE 205 (co-req) + CME 200

**Total Credit Hours 18**

**Second Year (Sophomore)**

Semester 3

Code	Title	Cr.	Prerequisite
MTT 201	Calculus 3	3	MTT 200
CSC 201	Structured Programming	3	MTT 102
PHY 201	Physics and Engineering Applications II	3	PHY 102
PHY 201L	Physics and Engineering Applications II Lab	1	PHY 102 + PHY 201 (co-req)
COE 101	Introductory Artificial Intelligence	3	STT 100
CME 212	Fluid Mechanics for Chemical Engineers	3	CME210
ISL 100	Islamic Culture	3	None

**Total Credit Hours 19**

Semester 4

Code	Title	Cr.	Prerequisite
MEC 300	Materials Science	3	CHE 205
CME 220	Chemical Engineering Thermodynamics I	3	CME 210
CHE 206	General Chemistry II	3	CHE 205
CHE 206L	General Chemistry II Lab	1	CHE 205 + CHE 206 (co-req)
MTT 204	Introduction to Linear Algebra	3	MTT200
MTT 205	Differential Equations	3	MTT 200+MTT 204 (co-req)

**Total Credit Hours 16**

Summer Semester

Code	Title	Cr.	Prerequisite
CME 398	Internship I	1.5	60 credit hours

**Third Year (Junior)**

Semester 5

Code	Title	Cr.	Prerequisite
CHE 305	Organic Chemistry	4	CHE 206
CME 300	Chemical Engineering Thermodynamics II	3	CME 220 + MTT 205
CHE 330	Physical Chemistry	3	CME 220+CHE 206
CME 341	Heat Transfer	3	CME 212
FWS 305	Technical Communications for Work Place	3	ENG 200 + Comp. of 45 c. hr.
COE 202	Engineering Ethics, Economy and Law	3	ENG 200 + MTT 102

**Total Credit Hours 19**

Semester 6

Code	Title	Cr.	Prerequisite
CME 301	Mass Transfer	3	CME 300 + CME 341
CME 331	Chemical Reaction Engineering	3	CHE 330 + MTT 205 + CME 341
CME 305	Modeling and Simulation in Chem. Engineering (with Embedded Lab)	3	CME 210+ CME 212+CME 331 (co-req)
CME 320	Chemical Engineering Laboratory I	1	CME 212 + CME 341+ CME 301(coreq)
CME 321	Process Dynamics and Control	3	CME 331 (co-req)
FWS 310	Fund. of Innovation and Entrepreneurship	3	ENG 200 + Comp. of 60 c.hr.

**Total Credit Hours 16**

Summer Semester

Code	Title	Cr.	Prerequisite
CME 399	Internship II	1.5	CME 398

**Fourth Year (Senior)**

Semester 7

Code	Title	Cr.	Prerequisite
CME 400	Separation Processes	3	CME 301 + CME 305
CME 430	Chemical Engineering Laboratory II	1	CME 321 + CME 331 + CME 400(co-req)
CME 450	Process Design	3	CME 331 + CME 400 (co-req)
CME 455	Industrial Software for ChMEs	2	CME300+CME331+CME400 (co-req)
CME 480	Physical and Chemical Processes for Water and Wastewater Treatment	3	CHE 305+CHE 330
CME 498	Capstone Design Project I	1	Sr. level+CME321+CME331+CME305+CME301
FWS 205	UAE and GCC Society	3	ENG102 (P) & USS001 as pre-requisite USS001 as (Co) if placed in ENG200 directly

**Total Credit Hours 16**

Semester 8

Code	Title	Cr.	Prerequisite
CME 499	Capstone Design Project II	2	CME 498
CME 481	Desalination Technologies	3	CME 341 + CME 300
CME 482	Sludge Treatment	3	CME 480
CME 483	Industrial Wastewater Treatment	3	CME301
CME 484	Industrial Water Pollution & Control	3	CME301

**Total Credit Hours 14**