

## CHEMICAL ENGINEERING PROGRAM: FIRST AND SECOND YEARS

	SEMESTER I	SEMESTER II	SEMESTER III	SEMESTER IV
<b>MATHEMATICS</b>	MATH UN1101 (3)	MATH UN1102 (3)	APMA E2000 (4) and E2001 (0)	MATH UN2030 (3) ODE or APMA E2101 (3)
<b>PHYSICS</b> (three tracks, choose one)	UN1401 (3) UN1601 (3.5) UN2801 (4.5)	UN1402 (3) UN1602 (3.5) UN2802 (4.5)	Lab UN1494 (3)  Lab UN3081 (2)	
<b>CHEMISTRY</b> (three tracks, choose one)	UN1403 (4) and Lab UN1500 (3) UN1604 (4) UN2045 (4)	UN1404 (4) UN1507 (3) UN2046 (4) and Lab UN1507 (3)	UN2443 (4)	
<b>UNIVERSITY WRITING</b>	CC1010 (3) either semester			
<b>REQUIRED NONTECHNICAL ELECTIVES</b>			One core humanities elective (3–4 points) <sup>1</sup>	Three core humanities electives (11 points) <sup>1</sup>
<b>CHEM. ENG. REQUIREMENT</b>	CHEN E1000 (1) Chemical engineering for humanity		CHEN E2100 (3) Material and energy balances	CHEN E3020 (3) Analysis of chem. eng. problems
<b>COMPUTER SCIENCE</b>		ENGI E1006 (3)		
<b>THE ART OF ENGINEERING</b>	ENGI E1102 (4) either semester			
<b>TOTAL POINTS<sup>2</sup></b>	17	17	17	17

<sup>1</sup> Four core humanities electives should be taken as follows: In Semester III, HUMA CC1001 or COCI CC1101 (4) or any initial course in one of the Global Core sequences offered by the College (3–4); in Semester IV, HUMA CC1002 or COCI CC1102 (4) or ASCM UN2002 or the second course in the Global Core sequence elected in Semester III (3–4); also in Semester IV, ECON UN1105 (4) with UN1155 recitation (0) and either HUMA UN1121 or UN1123 (3).

<sup>2</sup> Taking the first track in each row and E1102 in Semester II.

## CHEMICAL ENGINEERING: THIRD AND FOURTH YEARS

		SEMESTER V	SEMESTER VI	SEMESTER VII	SEMESTER VIII
<b>MATHEMATICS</b>			MATH elective (3) <sup>1</sup>		
<b>PHYSICAL EDUCATION<sup>4</sup></b>			UN1001 (1)		UN1002 (1)
<b>REQUIRED COURSES</b>		CHEN E3110 (3) Transp. phenomena, I  CHEE E3010 (3) Principles of chem. eng. thermodynamics I	CHEN E3230 (3) Reaction kinetics and reactor design  CHEN E4140 (3) Eng. separations processes	CHEN E4500 (4) Process and product design, I	
<b>REQUIRED LABS</b>		Adv natural science lab (3) <sup>2</sup>		CHEN E4300 (3) Chem. eng. process control and safety	CHEN E3810 (3) Chem. eng. lab
<b>REQUIRED ELECTIVES</b>	<b>NONTECH</b>	3 points	3 points	3 points	
	<b>TECH<sup>3</sup></b>	3 points	3 points	6 points	9 points
<b>TOTAL POINTS</b> (normal track)		15	16	16	13

<sup>1</sup> Math elective options include APMA E3101, MATH UN2010, APMA E3102, APMA E4150, APMA E4300, STAT GU4001, or another course approved by the major adviser.

<sup>2</sup> Total of 3 points required. Choose from CHEM UN2493 (1.5), CHEM UN2496 (1.5), CHEM UN2543 (3), CHEM UN2545 (3), CHEM UN3085( 3), BIOL 2501 (3), EEEB 3015 (3), or another course approved by the major adviser.

<sup>3</sup> See the bulletin text for technical elective requirements.

<sup>4</sup> May be taken in any semester.