

PAPER ENGINEERING									2017-2018							
Cr. Hrs	SEM 1	Cr. Hrs	SEM 2	Cr. Hrs	SEM 3	Cr. Hrs	SEM 4	Cr. Hrs	SEM 5	Cr. Hrs	SEM 6	Cr. Hrs	SEM 7	Cr. Hrs	SEM 8	
4	MATH 1220 or 1700 Calculus I (F, Sp, Sul, Sull)	4	MATH 1230 or 1710 Calculus II (F, Sp, Sul, Sull)	3+1	CHEM 3750/3760 Organic Chemistry I (L) (F, Sp)	4	MATH 2720 Multivariate Calculus (F, Sp, Sul, Sull)	3	CHEG 3110 Unit Operations in Chemical Engineering I (L)	4	MATH 3740 Differential Equations (F, Sp, Sull)	3	CHEM 4300 Physical Chemistry I (L) (F)	3	PAPR 4300 Surface and Wet End Science (Sp)	
	MATH 1180 ≥ C or placement		MATH 1220 or 1700 ≥ C		CHEM 1120/1130 ≥ C		MATH 1230 or 1710 ≥ C		CHEG 2960 ≥ C		MATH 2720 ≥ C		PHYS 2050/2060 + 2070/2080 ≥ C		CHEM 3750/3760 ≥ C	
													MATH 2720 ≥ C		CHEM 1120/1130 ≥ C	
3+1	CHEM 1100/1110 Gen. Chemistry I (L) (F, Sp, Sul, Sull)	3+1	CHEM 1120/1130 Gen. Chemistry II (L) (F, Sp, Sul, Sull)	4+1	PHYS 2050/2060 University Physics I (L) (F, Sp, Sul)	4+1	PHYS 2070/2080 University Physics II (L) (F, Sp, Sull)	4	PAPR 3030 Pulping and Bleaching (L) (F)	3	CHEG 3120 Unit Operations II (L) (Sp)	4	CHEG 4830 Process Control I (L) (F)	1	CHEG/GPS 4400 Seminar (Sp)	
	MATH 1110 ≥ C or placement		CHEM 1100/1110 ≥ C		MATH 1220 or 1700 ≥ C		PHYS 2050 ≥ C		CHEG 2960 ≥ C		CHEG 3110 ≥ C		CHEG 3120 ≥ C		Junior Standing	
					MATH 1230 or 1710 ≥ C		MATH 1230 or 1710 ≥ C		CHEM 3750 ≥ C				PHYS 2070 ≥ C		MATH 3740 ≥ D	
					MATH 1230 or 1710 ≥ C or taking concurrently		MATH 2720 or 2300 ≥ C or taking concurrently									
3	IEE 1020 Technical Comm. (F, Sp)	2	CHEG 1810 Intro to Eng. Comp. (L) (F, Sp)	3	IEE 2610 Engineering Statistics (L) (F, Sul)	4	CHEG 2960 Material and Energy Balance (L) (F, Sp)	4	GEN ED II Humanities	3	PAPR 3330 Carbohydrate & Lignin Chem (L) (Sp)	3	PAPR 4600 Plant Economics and Project Design (L) (F)	3	PAPR 4860 Independent Research (Sp)	
	ENGL 1000 or placement		MATH 1180 ≥ C		MATH 1220 or 1700 ≥ C		MATH 1230 and CHEM 1100 ≥ C				PAPR 3030 ≥ C		CHEG 3120 ≥ C		PAPR 4850 ≥ C	
			PAPR 1000 ≥ C or CHEG 1010 ≥ C				Co-reqs CHEG 1810 and PHYS 2050				CHEM 3750/3760 ≥ C		PAPR 3030 ≥ C			
3	PAPR 1000 Introduction to Pulp and Paper Manufacture (L) (F)	4	PAPR 2040 (L) (Sp)	4	PAPR 2550 Paper Physics Fundamentals (L) (F)	3	CHEG 2611 Environmental Engineering (F, Sp)	3	GEN ED III U.S. Culture & Issues	3	ELECTIVE**	1	PAPR 4400 Seminar (F)	1	CHEG 4811 Unit Operations Lab (L) (F, Sp)	
	Co-requisite CHEM 1100/1110		PAPR 1000 ≥ C or PAPR 1040 ≥ C		PAPR 2040 ≥ C		CHEM 1100/1110 ≥ C						Junior Standing		CHEG 3120 ≥ C	
					Co-requisite IEE 2610 or STAT 3640		MATH 1230 or 1710 ≥ C								IEE 2610 ≥ C	
3	GEN ED I* Fine Arts	2	GEN ED VIII Health & Well-Being	3	ECON 2010 Principles of Microeconomics	4	ELECTIVE**	4	ELECTIVE**	3	GEN ED IV Other Cultures & Civilizations	3	PAPR 4850 Research Design (F)	3	ELECTIVE**	
													Senior Standing			
													1	CHP 3100 Work Exp. (F, Sp)	3	ELECTIVE**
														Junior Standing		
	17 hours		16 hours		19 hours		20 hours		18 hours		16 hours		15 hours		14 hours	
															133 total hours	

NOTE: Prerequisite courses are shown in smaller print.

*See your academic advisor for general education requirements.

33 Cr. Pre-Engineering Req. 85 Cr. Paper Req. 15 Cr. Gen Ed Req. 17 Cr. Electives

** See page 2 for the elective core courses.

A 'C' or better is required for

PAPER ENGINEERING PROCESS - ELECTIVE CORE COURSES**(Select 17 credits from the following)**

Cr. Hrs	Elective	Cr. Hrs	Elective	Cr. Hrs	Elective	Cr. Hrs	Elective	Cr. Hrs	Elective	Cr. Hrs	Elective	Cr. Hrs	Elective		
3	CHEG 3200 Chemical Engineering Thermo. (F)	1	CHEG 3810 Computer Modelling and Simulation (L) (F)	3	CHEG 4100 Chemical Reaction Engineering (F)	4	ECE 2100 Circuit Analysis (L) (F, Sp, Sul)	3	IEE 3100 Engineering Economy (F, Sp, Sul)	4	STAT 5670 Statistical Design and Analysis of Experiments (F)	3	GPS 5100 Printability Analysis	4	CHEG 4840 Process Control II (Sp)
	CHEM 1120 ≥ C CHEG 2960 ≥ C		CHEG 2960 ≥ C		CHEG 3200 or CHEM 4300 ≥ C		Co-requisite PHYS 2070 MATH 1230 or 1710 ≥ C		MATH 1230 ≥ C Junior Standing		Intro stat course		GPS 3500 OR GPS 2580 OR GPS 3590 OR PAPER 2420 OR PAPER 3420		CHEG 4830 ≥ C
1	CHP 3100 Work Experience/Co-op	4	PAPR 2420 Coating *REQUIRED (Sp)												
			PAPR 2040 or PAPR 2550 or GPS 2150												

**PAPER ENGINEERING - ENVIRONMENTAL ENGINEERING & SUSTAINABLE PROCESSES
ELECTIVE CORE COURSES (Minimum of 17 credits)**

Cr. Hrs	Elective	Cr. Hrs	Elective	Cr. Hrs	Elective	Cr. Hrs	Elective	Cr. Hrs	Elective	Cr. Hrs	Elective	Cr. Hrs	Elective		
3	CHEG 3611 * Advanced Topics In Environmental Engineering	3	CHEG 4440 Energy Management Engineering (F)	3	CHEG 4611 * Sustainable Chemical Process Development (F)	4	BIOS 2320 Microbiology & Infectious Diseases (F, Sp)	1	CHP 3100 Work Experience/Co-op (F, Sp, Sul)	3	CHEG 3200 Chemical Engineering Thermo. (F)	3	CHEG 4100 Chemical Reaction Engineering (F)	3+ 1	CHEM 2250/2260 Quantitative Analysis (Sp)
	CHEG 2611 ≥ C		CHEG 3120 & 3200 ≥ C or ME 4310 & 4320 ≥ C		CHEG 2611 ≥ C CHEG 2960 ≥ C				Junior Standing		CHEM 1120 ≥ C CHEG 2960 ≥ C		CHEM 4300 ≥ C		CHEM 1120/1130 ≥ C
3+ 1	CHEM 3700/3710 Introductory Biochemistry (Sp, Sul)	3	ECON 3190 Environmental Economics	3	IEE 3100 Engineering Economy (F, Sp, Sul)	4	PAPR 2420 Coating (Sp)								
	CHEM 3700/3710 or CHEM 3770/3780 ≥ C		ECON 2010 ≥ C		Math 1230 or 1710 ≥ C Junior Standing		PAPR 2040 or PAPR 2550 or GPS 2150 ≥ C								
* CHEG 3611 and 4611 are required courses. Select the balance of 8 credits from the remaining courses.															