Name: _____ Student Number: _____

PAPER ENGINEERING

2016-2017

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	**PAPR 4400 Seminar (F, 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		CHEM 3750≥ C				PHYS 2070 ≥ C		
					MATH 1230 or 1710 ≥ C or taking concurrently		MATH 2720 or 2300 ≥C or taking concurrently						Co-requisite MATH 3740		
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)**	4	**GEN ED II Humanities**	3	**PAPR 3330 Carbohydrate & Lignin Chem (L) (Sp)**	3	**PAPR 4600 Plant Economics and Project Design (L) (Sp)**	3	**PAPR 4860 Independent Research (Sp)**
	ENGL 1000 or placement		MATH 1180 ≥ C		MATH 1220 or 1700 ≥ C		CHEM 1100 ≥ C				PAPR 3030 ≥ C		CHEG 3120 ≥ C		PAPR 4850 ≥ C
			PAPR 1000 ≥ C or CHEG 1010 ≥ C				PHYS 2050 ≥ C				Co-requisite CHEM 3750/3760		PAPR 3030 ≥ C		
							Co-req. CHEG 1810								
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**	3	**GEN ED III U.S. Culture & Issues**	3	**ELECTIVE****	1	**PAPR 4400 Seminar (F, Sp)**	1	**CHEG 4811 Unit Operations Lab (L) (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 IME 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, Sp)**	3	**ELECTIVE****
													Senior Standing		
												1	**PAPR 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.

** See page 2 for the elective core courses.

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

A 'C' or better is required for

Name: _____ admission to upper level CEAS courses Student Number: _____

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 Modeling 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	**ME 2530 Statics and Mechanics of Materials**	3	**GPS 5100 Printability Analysis**	4	**PAPR 4840 Process Control II (Sp)**
	CHEM 1120 ≥ C		CHEG 2960 ≥ C		CHEG 3200 or CHEM 4300 ≥ C		Co-requisite PHYS 2070		MATH 1230 ≥ C		MATH 1230 or 1710 ≥ C		GPS 3500 OR GPS 2580 OR GPS 3590 OR PAPR 2420 OR PAPR 3420		CHEG 4830 ≥ C
	CHEG 2960 ≥ C								Junior Standing						
							MATH 1230 or 1710 ≥ C				CS 1022 or 1023 ≥ C				
4	**STAT 5670 Statistical Design and Analysis of Experiments (F)**	1	**CHP 3100 Work Experience/Co-op**	4	**PAPR 2420 Coating *REQUIRED**										
	Intro stat course				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		CHEG 2611 ≥ C				Junior Standing		CHEM 1120 ≥ C		CHEM 4300 ≥ C		CHEM 1120/1130 ≥ C
					CHEG 2960 ≥ C						CHEG 2960 ≥ C				
			or ME 4310 & 4320 ≥ C												
3+1	**CHEM 3550/3560 Introductory Biochemistry (Sp, Sul)**	3	**ECON 3190 Environmental Economics**	3	**IEE 3100 Engineering Economy (F, Sp, Sul)**	4	**PAPR 2420 Coating**								
	CHEM 3700/3710 or CHEM 3770/3780 ≥ C		ECON 2010 ≥ C		Math 1230 or 1710 ≥ C		PAPR 2040 or PAPR 2550 or GPS 2150 ≥ C								
					Junior Standing										

* CHEG 3611 and 4611 are required courses. Select the balance of 8 credits from the remaining courses.