## Study Plan for Program Major (Petrochemical and Polymer Engineering)

Year	First Trimester	Credit	Second Trimester	Credit	Third Trimester	Credit
FRESHMAN	SCI02 1111 Fundamental Chemistry I	4	SCI03 1002 Calculus II	4	SCI03 1005 Calculus III	4
	SCI02 1112 Fundamental Chemistry	1	SCI05 1001 Physics I	4	SCI05 1002 Physics II	4
	Lab. I					
	SCI02 1105 Calculus I	4	SCI05 1191 Physics Lab. I	1	SCI05 1192 Physics Lab. II	1
	IST20 1001 Digital Literacy	2	IST20 1003 Life Skills	3	IST20 1004 Citizenship and Global	3
					Citizens	
	IST20 1002 Use of Application Programs for	1	IST30 1102 English for	3	ENG31 1000 Engineering Materials I	2
	Learning		Communication II			
	IST30 1101 English for Communication I	3	ENG85 1020 Computer Programming I	1	ENG35 1010 Engineering Workshop Skills	1
	ENG85 1010 Engineering Graphics I	2				
	Total	17	Total	16	Total	15
	SCI02 1105 Organic Chemistry	3	ENG83 2004 Electrical Engineering	2	IST20 2002 Man, Economy and	3
					Development	
	SCI02 1106 Organic Chemistry Laboratory	1	ENG83 2005 Electrical Engineering Lab	1	ENG83 2001 Principle of Polymerization I	4
	IST30 1103 English for Academic Purposes	3	ENG83 2006 Petrochemical and Pol.	4	ENG83 2002 Polymerization and	1
뿠			Eng. Thermo		Characterization Lab.	
SOPHOMORE	ENG85 2030 Engineering Statics	3	ENG83 2111 Principles of Chemical	4	ENG83 2003 Experimental Design and	3
DPH(			Eng.		Data Analysis	
S	ENG83 1001 Engineering Materials II	2	General Education Elective (1)	2	ENG83 2007 Computer Programming for	2
	ENG83 2110 Petrochemical and Polymer	3	General Education Elective (2)	2	Petrochemical and	
	Technology				Polymer Engineers	
	ENG85 2140 Engineering Graphics II	2			ENG83 2008 Unit Operation I	4
	Total	17	Total	15	Total	17
	Total	17	Total	15	Total  ENC32 0403 Industrial Quality Control	17
	Total  IST30 1104 English for Specific Purposes	<b>17</b> 3	IST20 2001 Man, Society and	<b>15</b>	<b>Total</b> ENG33 0403 Industrial Quality Control	<b>17</b>
	IST30 1104 English for Specific Purposes	3	IST20 2001 Man, Society and Environment	3	ENG33 0403 Industrial Quality Control	4
			IST20 2001 Man, Society and Environment ENG83 3115 Polymer Rheology and			
	IST30 1104 English for Specific Purposes ENG33 0404 Engineering Economy	3	IST20 2001 Man, Society and Environment ENG83 3115 Polymer Rheology and Processing	3	ENG33 0403 Industrial Quality Control ENG83 3119 Unit Operations II	4
NIOR	IST30 1104 English for Specific Purposes	3	IST20 2001 Man, Society and Environment ENG83 3115 Polymer Rheology and	3	ENG33 0403 Industrial Quality Control	4
JUNIOR	IST30 1104 English for Specific Purposes ENG33 0404 Engineering Economy ENG83 3112 Structure and Properties of	3	IST20 2001 Man, Society and Environment  ENG83 3115 Polymer Rheology and Processing  ENG83 3116 Polymer Processing	3	ENG33 0403 Industrial Quality Control  ENG83 3119 Unit Operations II  ENG83 3120 Unit Operations Laboratory	4 4
JUNIOR	IST30 1104 English for Specific Purposes  ENG33 0404 Engineering Economy  ENG83 3112 Structure and Properties of Polymers	3 4 4	IST20 2001 Man, Society and Environment  ENG83 3115 Polymer Rheology and Processing  ENG83 3116 Polymer Processing Laboratory	3 4 1	ENG33 0403 Industrial Quality Control  ENG83 3119 Unit Operations II  ENG83 3120 Unit Operations Laboratory ENG83 3121 Polymer Additives	4 4 1 3
JUNIOR	IST30 1104 English for Specific Purposes  ENG33 0404 Engineering Economy  ENG83 3112 Structure and Properties of Polymers  ENG83 3113 Polymer Properties Testing	3 4 4	IST20 2001 Man, Society and Environment  ENG83 3115 Polymer Rheology and Processing  ENG83 3116 Polymer Processing Laboratory  ENG83 3117 Polymer Characterization	3 4 1 3	ENG33 0403 Industrial Quality Control  ENG83 3119 Unit Operations II  ENG83 3120 Unit Operations Laboratory ENG83 3121 Polymer Additives Technical Elective (2)	4 4 1 3 3 3
JUNIOR	IST30 1104 English for Specific Purposes  ENG33 0404 Engineering Economy  ENG83 3112 Structure and Properties of Polymers  ENG83 3113 Polymer Properties Testing Laboratory	3 4 4 1	IST20 2001 Man, Society and Environment  ENG83 3115 Polymer Rheology and Processing  ENG83 3116 Polymer Processing Laboratory  ENG83 3117 Polymer Characterization  ENG83 3118 Catalysis	3 4 1 3 3	ENG33 0403 Industrial Quality Control  ENG83 3119 Unit Operations II  ENG83 3120 Unit Operations Laboratory ENG83 3121 Polymer Additives Technical Elective (2)	4 4 1 3 3 3
JUNIOR	IST30 1104 English for Specific Purposes  ENG33 0404 Engineering Economy  ENG83 3112 Structure and Properties of Polymers  ENG83 3113 Polymer Properties Testing Laboratory	3 4 4 1	IST20 2001 Man, Society and Environment  ENG83 3115 Polymer Rheology and Processing  ENG83 3116 Polymer Processing Laboratory  ENG83 3117 Polymer Characterization  ENG83 3118 Catalysis  ENG83 4395 Pre-cooperative	3 4 1 3 3	ENG33 0403 Industrial Quality Control  ENG83 3119 Unit Operations II  ENG83 3120 Unit Operations Laboratory ENG83 3121 Polymer Additives Technical Elective (2)	4 4 1 3 3 3
JUNIOR	IST30 1104 English for Specific Purposes  ENG33 0404 Engineering Economy  ENG83 3112 Structure and Properties of Polymers  ENG83 3113 Polymer Properties Testing Laboratory  ENG83 3114 Chemical Reaction Engineering	3 4 4 1	IST20 2001 Man, Society and Environment  ENG83 3115 Polymer Rheology and Processing  ENG83 3116 Polymer Processing Laboratory  ENG83 3117 Polymer Characterization  ENG83 3118 Catalysis  ENG83 4395 Pre-cooperative Education	3 4 1 3 3 1	ENG33 0403 Industrial Quality Control  ENG83 3119 Unit Operations II  ENG83 3120 Unit Operations Laboratory ENG83 3121 Polymer Additives Technical Elective (2)	4 4 1 3 3 3
JUNIOR	IST30 1104 English for Specific Purposes  ENG33 0404 Engineering Economy  ENG83 3112 Structure and Properties of Polymers  ENG83 3113 Polymer Properties Testing Laboratory  ENG83 3114 Chemical Reaction Engineering  Free Elective (1)	3 4 4 1 4	IST20 2001 Man, Society and Environment ENG83 3115 Polymer Rheology and Processing ENG83 3116 Polymer Processing Laboratory ENG83 3117 Polymer Characterization ENG83 3118 Catalysis ENG83 4395 Pre-cooperative Education Technical Elective (1)	3 4 1 3 3 1	ENG33 0403 Industrial Quality Control  ENG83 3119 Unit Operations II  ENG83 3120 Unit Operations Laboratory ENG83 3121 Polymer Additives Technical Elective (2) Technical Elective (3)	4 4 1 3 3 3
JUNIOR	IST30 1104 English for Specific Purposes  ENG33 0404 Engineering Economy  ENG83 3112 Structure and Properties of Polymers  ENG83 3113 Polymer Properties Testing Laboratory  ENG83 3114 Chemical Reaction Engineering  Free Elective (1)  Total	3 4 4 1 4 2 18	IST20 2001 Man, Society and Environment  ENG83 3115 Polymer Rheology and Processing  ENG83 3116 Polymer Processing Laboratory  ENG83 3117 Polymer Characterization  ENG83 3118 Catalysis  ENG83 4395 Pre-cooperative Education  Technical Elective (1)  Total	3 4 1 3 1 3	ENG33 0403 Industrial Quality Control  ENG83 3119 Unit Operations II  ENG83 3120 Unit Operations Laboratory ENG83 3121 Polymer Additives Technical Elective (2) Technical Elective (3)	4 4 1 3 3 3
JUNIOR	IST30 1104 English for Specific Purposes  ENG33 0404 Engineering Economy  ENG83 3112 Structure and Properties of Polymers  ENG83 3113 Polymer Properties Testing Laboratory  ENG83 3114 Chemical Reaction Engineering  Free Elective (1)  Total  IST30 1105 English for Careers	3 4 4 1 4 2 18 3	IST20 2001 Man, Society and Environment  ENG83 3115 Polymer Rheology and Processing  ENG83 3116 Polymer Processing Laboratory  ENG83 3117 Polymer Characterization  ENG83 3118 Catalysis  ENG83 4395 Pre-cooperative Education  Technical Elective (1)  Total	3 4 1 3 1 3	ENG33 0403 Industrial Quality Control  ENG83 3119 Unit Operations II  ENG83 3120 Unit Operations Laboratory ENG83 3121 Polymer Additives Technical Elective (2) Technical Elective (3)  Total  Free Electives (2)	4 4 1 3 3 3 3
	IST30 1104 English for Specific Purposes  ENG33 0404 Engineering Economy  ENG83 3112 Structure and Properties of Polymers  ENG83 3113 Polymer Properties Testing Laboratory  ENG83 3114 Chemical Reaction Engineering  Free Elective (1)  Total  IST30 1105 English for Careers  ENG83 4122 Engineering Safety  ENG83 4123 Pollution Control for Petrochemical Industry	3 4 1 4 2 18 3 2	IST20 2001 Man, Society and Environment  ENG83 3115 Polymer Rheology and Processing  ENG83 3116 Polymer Processing Laboratory  ENG83 3117 Polymer Characterization  ENG83 3118 Catalysis  ENG83 4395 Pre-cooperative Education  Technical Elective (1)  Total	3 4 1 3 1 3	ENG33 0403 Industrial Quality Control  ENG83 3119 Unit Operations II  ENG83 3120 Unit Operations Laboratory ENG83 3121 Polymer Additives Technical Elective (2) Technical Elective (3)  Total  Free Electives (2) Free Electives (3)	4 4 1 3 3 3 3 3
	IST30 1104 English for Specific Purposes  ENG33 0404 Engineering Economy  ENG83 3112 Structure and Properties of Polymers  ENG83 3113 Polymer Properties Testing Laboratory  ENG83 3114 Chemical Reaction Engineering  Free Elective (1)  Total  IST30 1105 English for Careers  ENG83 4122 Engineering Safety  ENG83 4123 Pollution Control for Petrochemical Industry  ENG83 4124 Seminar	3 4 1 4 2 18 3 2	IST20 2001 Man, Society and Environment  ENG83 3115 Polymer Rheology and Processing  ENG83 3116 Polymer Processing Laboratory  ENG83 3117 Polymer Characterization  ENG83 3118 Catalysis  ENG83 4395 Pre-cooperative Education  Technical Elective (1)  Total	3 4 1 3 1 3	ENG33 0403 Industrial Quality Control  ENG83 3119 Unit Operations II  ENG83 3120 Unit Operations Laboratory ENG83 3121 Polymer Additives Technical Elective (2) Technical Elective (3)  Total  Free Electives (2) Free Electives (3)	4 4 1 3 3 3 3 3
SENIOR	IST30 1104 English for Specific Purposes  ENG33 0404 Engineering Economy  ENG83 3112 Structure and Properties of Polymers  ENG83 3113 Polymer Properties Testing Laboratory  ENG83 3114 Chemical Reaction Engineering  Free Elective (1)  Total  IST30 1105 English for Careers  ENG83 4122 Engineering Safety  ENG83 4123 Pollution Control for Petrochemical Industry  ENG83 4124 Seminar  ENG83 4125 Petrochemical and Polymer	3 4 1 4 2 18 3 2 2	IST20 2001 Man, Society and Environment  ENG83 3115 Polymer Rheology and Processing  ENG83 3116 Polymer Processing Laboratory  ENG83 3117 Polymer Characterization  ENG83 3118 Catalysis  ENG83 4395 Pre-cooperative Education  Technical Elective (1)  Total	3 4 1 3 1 3	ENG33 0403 Industrial Quality Control  ENG83 3119 Unit Operations II  ENG83 3120 Unit Operations Laboratory ENG83 3121 Polymer Additives Technical Elective (2) Technical Elective (3)  Total  Free Electives (2) Free Electives (3)	4 4 1 3 3 3 3 3 3
	IST30 1104 English for Specific Purposes  ENG33 0404 Engineering Economy  ENG83 3112 Structure and Properties of Polymers  ENG83 3113 Polymer Properties Testing Laboratory  ENG83 3114 Chemical Reaction Engineering  Free Elective (1)  Total  IST30 1105 English for Careers  ENG83 4122 Engineering Safety  ENG83 4123 Pollution Control for Petrochemical Industry  ENG83 4124 Seminar  ENG83 4125 Petrochemical and Polymer Engineering Project	3 4 4 1 4 2 18 3 2 2 1 3	IST20 2001 Man, Society and Environment  ENG83 3115 Polymer Rheology and Processing  ENG83 3116 Polymer Processing Laboratory  ENG83 3117 Polymer Characterization  ENG83 3118 Catalysis  ENG83 4395 Pre-cooperative Education  Technical Elective (1)  Total	3 4 1 3 1 3	ENG33 0403 Industrial Quality Control  ENG83 3119 Unit Operations II  ENG83 3120 Unit Operations Laboratory ENG83 3121 Polymer Additives Technical Elective (2) Technical Elective (3)  Total  Free Electives (2) Free Electives (3)	4 4 1 3 3 3 3 3
	IST30 1104 English for Specific Purposes  ENG33 0404 Engineering Economy  ENG83 3112 Structure and Properties of Polymers  ENG83 3113 Polymer Properties Testing Laboratory  ENG83 3114 Chemical Reaction Engineering  Free Elective (1)  Total  IST30 1105 English for Careers  ENG83 4122 Engineering Safety  ENG83 4123 Pollution Control for Petrochemical Industry  ENG83 4124 Seminar  ENG83 4125 Petrochemical and Polymer Engineering Project  Technical Elective (4)	3 4 4 1 4 2 18 3 2 1 3 3	IST20 2001 Man, Society and Environment  ENG83 3115 Polymer Rheology and Processing  ENG83 3116 Polymer Processing Laboratory  ENG83 3117 Polymer Characterization  ENG83 3118 Catalysis  ENG83 4395 Pre-cooperative Education  Technical Elective (1)  Total	3 4 1 3 1 3	ENG33 0403 Industrial Quality Control  ENG83 3119 Unit Operations II  ENG83 3120 Unit Operations Laboratory ENG83 3121 Polymer Additives Technical Elective (2) Technical Elective (3)  Total  Free Electives (2) Free Electives (3)	4 4 1 3 3 3 3 3 3
	IST30 1104 English for Specific Purposes  ENG33 0404 Engineering Economy  ENG83 3112 Structure and Properties of Polymers  ENG83 3113 Polymer Properties Testing Laboratory  ENG83 3114 Chemical Reaction Engineering  Free Elective (1)  Total  IST30 1105 English for Careers  ENG83 4122 Engineering Safety  ENG83 4123 Pollution Control for Petrochemical Industry  ENG83 4124 Seminar  ENG83 4125 Petrochemical and Polymer Engineering Project	3 4 4 1 4 2 18 3 2 2 1 3	IST20 2001 Man, Society and Environment  ENG83 3115 Polymer Rheology and Processing  ENG83 3116 Polymer Processing Laboratory  ENG83 3117 Polymer Characterization  ENG83 3118 Catalysis  ENG83 4395 Pre-cooperative Education  Technical Elective (1)  Total	3 4 1 3 1 3	ENG33 0403 Industrial Quality Control  ENG83 3119 Unit Operations II  ENG83 3120 Unit Operations Laboratory ENG83 3121 Polymer Additives Technical Elective (2) Technical Elective (3)  Total  Free Electives (2) Free Electives (3)	4 4 1 3 3 3 3 3

Total 183 Credits

## Study Plan for Program Major-Minor (Petrochemical and Polymer Engineering- Entrepreneur)

Year	First Trimester	Credit	Second Trimester	Credit	Third Trimester	Credit
FRESHMAN	SCI02 1111 Fundamental Chemistry I	4	SCI03 1002 Calculus II	4	SCI031005 Calculus III	4
	SCI02 1112 Fundamental Chemistry Lab. I	1	SCI05 1001 Physics I	4	SCI05 1002 Physics II	4
	SCI02 1105 Calculus I	4	SCI05 1191 Physics Lab. I	1	SCI05 1192 Physics Lab. II	1
	IST20 1001 Digital Literacy	2	IST20 1003 Life Skills	3	IST20 1004 Citizenship and Global Citizens	3
	IST20 1002 Use of Application Programs for	1	IST30 1102 English for	3	ENG31 1000 Engineering Materials I	2
	Learning		Communication II			
	IST30 1101 English for Communication I	3	ENG85 1020 Computer Programming I	1	ENG35 1010 Engineering Workshop Skills	1
	ENG85 1010 Engineering Graphics I	2				
	Total	17	Total	16	Total	15
	SCI02 1105 Organic Chemistry	3	ENG83 2004 Electrical Engineering	2	IST20 2002 Man, Economy and	3
					Development	
	SCI02 1106 Organic Chemistry Laboratory	1	ENG83 2005 Electrical Engineering Lab	1	ENG83 2001 Principle of Polymerization I	4
	IST30 1103 English for Academic Purposes	3	ENG83 2006 Petrochemical and Pol.	4	ENG83 2002 Polymerization and	1
SE	ENG85 2030 Engineering Statics	3	Eng. Thermo		Characterization Lab.	
Ψ Q	ENG83 1001 Engineering Materials II	2	ENG83 2111 Principles of Chemical	4	ENG83 2003 Experimental Design and Data	3
SOPHOMORE	ENG83 2110 Petrochemical and Polymer	3	Eng		Analysis	
	Technology		General Education Elective (1)	2	ENG83 2007 Computer Programming for	2
	ENG85 2140 Engineering Graphics II	2	General Education Elective (2)	2	Petrochemical and	
					Polymer Engineers	
					ENG83 2008 Unit Operation I	4
	Total	17	Total	15	Total	17
	IST30 1104 English for Specific Purposes	3	IST20 2001 Man, Society and	3	ENG33 0403 Industrial Quality Control	4
			Environment			
	ENG33 0404 Engineering Economy	4	ENG83 3115 Polymer Rheology and	4	ENG83 3119 Unit Operations II	4
			Processing			
	ENG83 3112 Structure and Properties of	4	ENG83 3116 Polymer Processing	1	ENG83 3120 Unit Operations Laboratory	1
JUNIOR	Polymers		Laboratory		ENG83 3121 Polymer Additives	3
Ĭ	ENG83 3113 Polymer Properties Testing	1	ENG83 3117 Polymer Characterization	3	IST50 2403 Business Plan and Financing	3
	Laboratory		ENG83 3118 Catalysis	3	Entrepreneurship Elective (2)	2
	ENG83 3114 Chemical Reaction Engineering	4	IST50 2402 Go-to-Market Strategies	2	Technical Elective (1)	3
	IST50 2401 Entrepreneurship and New	3	for Innovative Product			
	Venture Creation		and Service			
	Free Elective(1)	2	Entrepreneurship Elective (1)	2		
	Total	21	Total	18	Total	20
SENIOR	IST30 1105 English for Careers	3	IST50 4413 Enterprise Cooperative	8	Free Electives (2)	3
	ENG83 4122 Engineering Safety	2	Education		Free Electives (3)	3
	ENG83 4123 Pollution Control for	2	or		Technical Elective (3)	3
	Petrochemical Industry		IST50 4414 Enterprise Incubation		Technical Elective (4)	3
	ENG83 4124 Seminar	1			General Education Elective (4)	2
	ENG83 4125 Petrochemical and Polymer	3				
	Engineering Project	4				
	IST50 3412 Pre-Enterprise Cooperative	1				
	Education or Pre-Enterprise	,				
	Incubation Technical Elective (2)	3 2				
	General Education Elective (4)					
		17	Total	0	Total	14
	Total	17	Total	8	Total	14

**Total 195 Credits**