

**Integrated Business and Engineering Honors Program  
Curriculum for a Major in Financial Engineering  
Draft Revised October 20 2011**

**All IBE Students Should Follow the Common Freshman Year Curriculum**

**Sophomore Year, Fall Semester**

Credits	Course	Description	Semester	Prerequisites
3	IE 111	Engineering Prob. & Stat.	F,S	Math 22
4	Math 23	Calculus III	F,S	Math 22
3	Acct 151	Intro Financial Accounting	F, S	Engin. 010, Sophomore Stdg
3	Mkt 111	Princ. Of Marketing	F,S	Eco 1, Sophomore Standing
3	Eco 029	Money and Banking	F,S	Eco 1
1	IBE 150	IBE Sophomore Lab	F	IBE 050 or permission
17	Semest. total			
51	Cumul.credits			

**Sophomore Year, Spring Semester**

Credits	Course	Description	Semester	Prerequisites
3	IE 121	Engineering Statistics	S	IE 111 or Math 231
4	Physics 21	Introductory Physics II	F,S	Phys 11,Math 23 (PC)
1	Physics 22	Physics Lab	F,S	Physics 12, Phys 21 (PC)
3	Fin 125	Intro. to Finance	F,S	Eco 029, Acct 151, IE 111
3	Acct 152	Managerial Accounting	F,S	Acct 151
3	Eco 146	App. Microeconomics	F,S	Eco 1, IE 111 or Math 231
17	Semester total			
68	Cumul. credits			

**Junior Year, Fall Semester**

Credits	Course	Description	Semester	Prerequisites
3	Fin 323	Investments	F,S	Fin 125, Eco 146
3	Fin 328	Corporate Finance	F,S	Fin 125, Eco 147
3	Math 205	Linear Methods	F,S	Math 23 (PC)
3	IE 230	Intro. Operations Res.	F,S	IE 111 or Math 231
3	IE 240	Software lab	F,S	Co with IE 220
1	IBE 250	IBE Junior Lab	F	IBE 150
3	HSS Elective #1	Humanities/Social Science		
19	Semester total			
87	Cumulative credits			

### Junior Year, Spring Semester

Credits	Course	Description	Semester	Prerequisites
3	Mgmt 243	Mgmt of People & Ops.	F,S	Junior Standing
3	IE 224** or BIS 111	Information Systems	F,S	(Engr 010) or (Acct 152, Engr 010)
3	IE 305	Simulation	F,S	IE 121, 230
3	IBE 380	IBE Capstone Design	S	IBE 050, Junior standing
3	Fin 3XX			
3	Engr Elective #1			
18	Semester total			
105	Cumulative credits			

\*\* IE 224 recommended

### Senior Year, Fall Semester

Credits	Course	Description	Semester	Prerequisites
3	Law 201	Legal Env. Of Business	F,S	Eco 1, Junior standing
3	Fin 3XX			
3	FE Major Elective #1			
3	HSS Elective #2			
3	IBE 385	IBE Capstone Design	F	IBE 380
3	Free Elective #1			
18	Semester total			
123	Cumulative credits			

### Senior Year, Spring Semester

Credits	Course	Description	Semester	Prerequisites
3	FE Major Elective #2			
3	Engr Elective #2			
4	Comm 160* or 130	Public Speaking for IBE	F,S	
4	Free Elective #2,			
14	Semester total			
137	Cumulative credits			

\* Comm 160 recommended

(PC) = Previously or Concurrently (Co) = Co-requisite; must be taken at the same time

**In addition, IBE FE majors must fulfill standard IBE requirements including**

Language proficiency

Summer internship

Maintain a GPA of at least 3.25

### Elective Lists

#### FIN 3XX Choose 2 :

FIN 324	Security Analysis and Portfolio Management
FIN 330	Financial Markets and Institutions
FIN 333	Global Finance

#### ENGR elec Choose 2 From:

CE 121
CE 14
CHE 210

FIN 334 Derivatives and Management of Risk  
 FIN 335 Advanced Topics-Financial Management  
 FIN 336 Real Estate Finance

CHE 31  
 CHE 44  
 CHE 44  
 ECE 083  
 ECE 108  
 ECE 33  
 ECE 82  
 IE 132  
 IE 216  
 Mat 10  
 MAT 33  
 ME 104  
 ME 21  
 ME 231  
 MECH 002 or 003  
 Mech 102  
 MECH 12

**FE Major Electives Choose 2:**

ECO 357 Econometrics  
 IE 316 Optimization Models & Apss  
 IE 339 Stochastic Models & Apps.  
 IE 447 Stoch. Program. & Fin. Anal.  
 IE/ECO 358 Game Theory

**Free Elective Choose 3**

Can still choose from above lists.

**ISE Dual Degree Option**

**Courses required for the BSISE degree not taken by IBE FE Majors:**

Credits	Course	Description	Semester	Prerequisites
1	ISE 112	Computer Graphics Lab	F	Engin 097
1	ISE 132	Work Systems Lab	S	IE 131 (Co)
3	ISE 226	Engineering Economics	S	IE 111
3	ISE 154	IE Senior Project	F,S	Senior Standing
4	ISE 215, 216	Mfg Processes Lab	F	IE 215 (Co)
3	ISE 251			
3	ISE 316 or 339			
3	ECE 83			
3	Mech 2 or 3			
3	Mat 33			
3	ME 104	Thermodynamics	F,S	Math 22, Phys 11
3	ISE 300 level elect.			
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3	ISE 300 level elect.			
42	Total Credits	<b>Can use IBE-FE electives for 21 of these 45 credits (45-21+136=160)</b>		

To complete the IE Dual degree program, IBE-FE students must:

1. Take the above “**Courses required for the BSISE degree not taken by IBE FE Majors**” (that is, complete all requirements for the BSIE degree).
2. Complete **at least** 161 total credits (SIE degree requires 131 + 30 additional credits).  
 This is University’s “30 credit rule” imposed on all dual degrees.
3. Take at least 2 additional credits of Eco in their IBE HSS electives (to fulfill the “depth” rule in the Engineering degree HSS requirements)