

Curriculum for IBE Degree with major in Bio Engineering - Tracks in BioPharm, Bioelectronics and Biomechanics/Biomaterials

Biopharm

Freshman Year Fall	Semester	Prerequisites	Credits
IBE 10	F		1
MATH 21	F,S		4
CHEM 30	F,S		4
ECO 001	F,S		4
ENGL 1	F,S		3
<b>Total</b>			<b>16</b>

Freshman Year Spring	Semester	Prerequisites	Credits
IBE 50	S		3
MATH 22	F,S	Math 21	4
PHY 11/12	F,S	Math 21 (PC)	5
ENGL 2	F,S	ENGL 1	3
Bus 005	S		1
ENGR 010	F,S		2
<b>Total</b>			<b>18</b>

Sophomore Year Fall	Semester	Prerequisites	Credits
IBE 150	F		1
HSS Elective #1	F,S		4
MATH 23	F,S	Math 22	4
CHEM 31	F,S	Chem 30, Math 21	4
CHE 31	F	Chem 30, ENGR 097 (PC)	3
<b>Total</b>			<b>16</b>

Sophomore Year Spring	Semester	Prerequisites	Credits
MATH 205	F,S	Math 22	3
BIOS 41/42	F,S	Chem 30 (PC)	4
ECO 29	F,S	Eco 1	3
PHY 21/22	F,S	Phys 11, Math 23 (PC)	5
Free Elective #1			3
<b>Total</b>			<b>18</b>

Junior Year Fall	Semester	Prerequisites	Credits
IBE 250	F	IBE 150	1
MATH 231	F,S	Math 22	3
CHEM 110	F	Chem 30	3
BIOE 110	F	BioS 41/42	4
ACCT 151	F,S	Soph., Engr 097	3
HSS Elective #2			3
<b>Total</b>			<b>17</b>

Junior Year Spring	Semester	Prerequisites	Credits
IBE 380	S	IBE 050	3
BIOE 210	S	BioE 110	4
ACCT 152	F,S	Acct 151	3
COMM 160	F,S		4
CHE 210	S	ChE 31	4
<b>Total</b>			<b>18</b>

Senior Year Fall	Semester	Prerequisites	Credits
IBE 385	F	IBE 380	3
List A BIOE elec	F,S	Math 205 and/or Math 231	3
ECO 146	F,S	Eco 1, Math 21, Math 231	3
BIS 111	F,S	Engr 097	3
Free Elective #2 *			3
MKT 111	F,S	Soph. Standing, Eco 1	3
<b>Total</b>			<b>18</b>

Senior Year Spring	Semester	Prerequisites	Credits
BIOE Tech Elec	F,S	(From list in catalog)	3
FIN 125	F,S	Eco 29, Math 21,231,Acct 51	3
LAW 201	F,S	Junior standing, Eco 1	3
MGT 243	F,S	Junior standing, Eco 1	3
BIOE 247 (biol fluid mech)	S	Math 205	4
<b>Total</b>			<b>16</b>

Total 137

Bioelectronics

Freshman Year Fall	Semester	Prerequisites	Credits
IBE 10	F		1
MATH 21	F,S		4
CHEM 30	F,S		4
ECO 001	F,S		4
ENGL 1	F,S		3
<b>Total</b>			<b>16</b>

Freshman Year Spring	Semester	Prerequisites	Credits
IBE 50	S		3
MATH 22	F,S	Math 21	4
PHY 11/12	F,S	Math 21 (PC)	5
ENGL 2	F,S	ENGL 1	3
Bus 005	S		1
ENGR 010	F,S		2
<b>Total</b>			<b>18</b>

Sophomore Year Fall	Semester	Prerequisites	Credits
IBE 150	F		1
HSS Elective #1	F,S		4
MATH 23	F,S	Math 22	4
PHY 21/22	F,S	Phys 11, Math 23 (PC)	5
ECE 81	F	Math 22 Phys 21 (PC)	4
<b>Total</b>			<b>18</b>

Sophomore Year Spring	Semester	Prerequisites	Credits
MATH 205	F,S	Math 22	3
BIOS 41/42	F,S	Chem 30 (PC)	4
ECO 29	F,S	Eco 1	3
MAT 33	F,S		3
HSS Elective #2	F,S		4
<b>Total</b>			<b>17</b>

Junior Year Fall	Semester	Prerequisites	Credits
IBE 250	F	IBE 150	1
MATH 231	F,S	Math 22	3
CHEM 31	F	Chem 30	3
BIOE 110	F	BioS 41/42	4
ACCT 151	F,S	Soph., Engr 097	3
ECE 108	F	ECE 81	3
<b>Total</b>			<b>17</b>

Junior Year Spring	Semester	Prerequisites	Credits
IBE 380	S	IBE 050	3
BIOE 210	S	BioE 110	4
ACCT 152	F,S	Acct 151	3
COMM 160	F,S		4
ECE 123	S	ECE 81	3
<b>Total</b>			<b>17</b>

Senior Year Fall	Semester	Prerequisites	Credits
IBE 385	F	IBE 380	3
List A BIOE elec	F,S	Math 205 and/or Math 231	3
ECO 146	F,S	Eco 1, Math 21, Math 231	3
BIS 111	F,S	Engr 097	3
Free Elective #1			3
MKT 111	F,S	Soph. Standing, Eco 1	3
<b>Total</b>			<b>18</b>

Senior Year Spring	Semester	Prerequisites	Credits
BIOE Tech Elec	F,S	(From list in catalog)	3
FIN 125	F,S	Eco 29, Math 21,231,Acct 51	3
LAW 201	F,S	Junior standing, Eco 1	3
MGT 243	F,S	Junior standing, Eco 1	3
Free Elective #2*			4
<b>Total</b>			<b>16</b>

Total 137

Biomechanics and Biomaterials

Freshman Year Fall	Semester	Prerequisites	Credits
IBE 10	F		1
MATH 21	F,S		4
CHEM 30	F,S		4
ECO 001	F,S		4
ENGL 1	F,S		3
<b>Total</b>			<b>16</b>

Freshman Year Spring	Semester	Prerequisites	Credits
IBE 50	S		3
MATH 22	F,S	Math 21	4
PHY 11/12	F,S	Math 21 (PC)	5
ENGL 2	F,S	ENGL 1	3
Bus 005	S		1
ENGR 010	F,S		2
<b>Total</b>			<b>18</b>

Sophomore Year Fall	Semester	Prerequisites	Credits
IBE 150	F		1
HSS Elective #1	F,S		4
MATH 23	F,S	Math 22	4
PHY 21/22	F,S	Phys 11, Math 23 (PC)	5
MECH 3	F,S	Phys 11, Math 22(PC)	3
<b>Total</b>			<b>17</b>

Sophomore Year Spring	Semester	Prerequisites	Credits
MATH 205	F,S	Math 22	3
BIOS 41/42	F,S	Chem 30 (PC)	4
ECO 29	F,S	Eco 1	3
MAT 33	F,S		3
MAT 205	S	Math 23, MAT 33 (PC)	3
<b>Total</b>			<b>16</b>

Junior Year Fall	Semester	Prerequisites	Credits
IBE 250	F	IBE 150	1
MATH 231	F,S	Math 22	3
CHEM 31	F	Chem 30	3
BIOE 110	F	BioS 41/42	4
ACCT 151	F,S	Soph., Engr 097	3
HSS Elective #2			4
<b>Total</b>			<b>18</b>

Junior Year Spring	Semester	Prerequisites	Credits
IBE 380	S	IBE 050	3
BIOE 210	S	BioE 110	4
ACCT 152	F,S	Acct 151	3
COMM 160	F,S		4
BIOE 247	S	Math 205	4
<b>Total</b>			<b>18</b>

Senior Year Fall	Semester	Prerequisites	Credits
IBE 385	F	IBE 380	3
List A BIOE elec	F,S	Math 205 and/or Math 231	3
ECO 146	F,S	Eco 1, Math 21, Math 231	3
BIS 111	F,S	Engr 097	3
Free Elective #1			3
MKT 111	F,S	Soph. Standing, Eco 1	3
<b>Total</b>			<b>18</b>

Senior Year Spring	Semester	Prerequisites	Credits
BIOE Tech Elec	F,S	(From list in catalog)	3
FIN 125	F,S	Eco 29, Math 21,231,Acct 51	3
LAW 201	F,S	Junior standing, Eco 1	3
MGT 243	F,S	Junior standing, Eco 1	3
Free Elective #2			4
<b>Total</b>			<b>16</b>

Total 137

Additional Courses BSBioE in Pharma track	
BIOE 1	1
BIOE 2	1
Chem 111	1
MAT 33	3
CHEM 112	3
BIOE 225	1
BIOE 343	3
BIOE 349 (metab engr)	3
BIOS 115/116	4
TE 211 (IPD)	3
TE 212 (IPD)	2
BioE 226	4
BIOE Tech Elec	6
<b>Total</b>	<b>35</b>

Additional Courses BSBioE in Electronics track	
BIOE 1	1
BIOE 2	1
CHEM 31	4
ECE 121	2
Chem 111	1
BIOE 225	1
BIOE 331	2
TE 211 (IPD)	3
TE 212 (IPD)	2
Mech 3	3
BIOS 115/116	4
BIOE Tech Elec	6
BioE 226	4
<b>Total</b>	<b>34</b>

Additional Courses BSBioE in Biomech and Biomat track	
BIOE 1	1
BIOE 2	1
CHEM 31	4
Chem 111	1
BIOE 225	1
BIOE 357	2
TE 211 (IPD)	3
MECH 12	3
TE 212 (IPD)	2
BIOS 115/116	4
BIOE 257	3
BIOE Tech Elec	6
BioE 226	4
<b>Total</b>	<b>35</b>

**Recommended Course Sequence for Dual Degree BioPharm Track**

Freshman Year Fall	
IBE 10	1
MATH 21	4
CHEM 30	4
ECO 001	4
ENGL 1	3
<b>Total</b>	<b>16</b>

Freshman Year Spring	
IBE 50	3
MATH 22	4
PHY 11/12	5
ENGL 2	3
Bus 005	1
ENGR 010	2
<b>Total</b>	<b>18</b>

Sophomore Year Fall	
IBE 150	1
HSS Elective #1	3
MATH 23	4
CHEM 31	4
CHE 31	3
BIOE 1	1
<b>Total</b>	<b>16</b>

Sophomore Year Spring	
MATH 205	3
BIOS 41/42	4
ECO 29	3
PHY 21/22	5
BIOE 2	1
<b>Total</b>	<b>16</b>

Junior Year Fall	
IBE 250	1
MATH 231	3
CHEM 110/111	4
BIOE 110	4
ACCT 151	3
MAT 33	3
<b>Total</b>	<b>18</b>

Junior Year Spring	
IBE 380	3
BIOE 210	4
ACCT 152	3
CHEM 112	3
CHE 210	4
<b>Total</b>	<b>17</b>

Senior Year Fall	
IBE 385	3

**Recommended Course Sequence for Dual Degree Bioelectronics track**

Freshman Year Fall	
IBE 10	1
MATH 21	4
CHEM 30	4
ECO 001	4
ENGL 1	3
<b>Total</b>	<b>16</b>

Freshman Year Spring	
IBE 50	3
MATH 22	4
PHY 11/12	5
ENGL 2	3
Bus 005	1
ENGR 010	2
<b>Total</b>	<b>18</b>

Sophomore Year Fall	
IBE 150	1
HSS Elective #1	3
MATH 23	4
PHY 21/22	5
ECE 81	4
BIOE 1	1
<b>Total</b>	<b>18</b>

Sophomore Year Spring	
MATH 205	3
BIOS 41/42	4
ECO 29	3
MAT 33	3
Mech 3	3
BIOE 2	1
<b>Total</b>	<b>17</b>

Junior Year Fall	
IBE 250	1
MATH 231	3
CHEM 31	4
BIOE 110	4
ACCT 151	3
ECE 108	3
<b>Total</b>	<b>18</b>

Junior Year Spring	
IBE 380	3
BIOE 210	4
ACCT 152	3
ECE 121/123	5
MKT 111	3
<b>Total</b>	<b>18</b>

Senior Year Fall	
IBE 385	3

**Recommended Course Sequence for Dual Degree BioMech and BioMat**

Freshman Year Fall	
IBE 10	1
MATH 21	4
CHEM 30	4
ECO 001	4
ENGL 1	3
<b>Total</b>	<b>16</b>

Freshman Year Spring	
IBE 50	3
MATH 22	4
PHY 11/12	5
ENGL 2	3
Bus 005	1
ENGR 010	2
<b>Total</b>	<b>18</b>

Sophomore Year Fall	
IBE 150	1
HSS Elective #1	3
MATH 23	4
PHY 21/22	5
MECH 3	3
BIOE 1	1
<b>Total</b>	<b>17</b>

Sophomore Year Spring	
MATH 205	3
BIOS 41/42	4
ECO 29	3
MAT 33	3
MAT 205	3
BIOE 2	1
<b>Total</b>	<b>17</b>

Junior Year Fall	
IBE 250	1
CHEM 31	4
BIOS 115/116	4
BIOE 110	4
ACCT 151	3
<b>Total</b>	<b>16</b>

Junior Year Spring	
IBE 380	3
BIOE 210	4
ACCT 152	3
MATH 231	3
MECH 12	3
<b>Total</b>	<b>16</b>

Senior Year Fall	
IBE 385	3

ECO 146	3
MKT 111	3
CHE/BIOE 341 (List A Elect)	3
BIOE 225	1
BIOS 115/116	4
<b>Total</b>	<b>17</b>

<b>Senior Year Spring</b>	
BIOE 247 (fluid mech)	4
BIOE Tech Elec	3
Fin 125	3
BIOE 343	3
TE 211 (IPD)	3
<b>Total</b>	<b>16</b>

<b>Fifth Year Fall</b>	
TE 212 (IPD)	2
BIOE Tech Elec	3
HSS #2	3
BIS 111	3
COMM 160	4
BIOE 349 (metab engr)	3
<b>Total</b>	<b>18</b>

<b>Fifth Year Spring</b>	
BioE 226	4
BIOE Tech Elec	3
LAW 201	3
MGT 243	3
<b>Total</b>	<b>13</b>

**Total 165**

4-year IBE degree has 13 credits of HSS and Free Electives  
5 Year dual degree plan has only 6 credits of HSS

$$136+35-13+6= 164$$

List A BIOE elec	3
CHEM 110/111	4
BIOE 225	1
COMM 160	4
<b>Total</b>	<b>15</b>

<b>Senior Year Spring</b>	
BIOE Tech Elec	3
BIOE 331	2
TE 211 (IPD)	3
BIS 111	3
HSS #2	4
<b>Total</b>	<b>15</b>

<b>Fifth Year Fall</b>	
TE 212 (IPD)	2
BIOE Tech Elec	3
BIOS 115/116	4
FIN 125	3
ECO 146	3
<b>Total</b>	<b>15</b>

<b>Fifth Year Spring</b>	
BioE 226	4
Appr BIOE elec	3
LAW 201	3
MGT 243	3
<b>Total</b>	<b>13</b>

**Total 163**

4-year IBE degree has 15 credits of HSS and Free Electives  
5 Year dual degree plan has only 7 credits of HSS

$$136+34-15+7= 162$$

BIOE Tech Elec	3
ECO 146	3
BIOE 225	1
MKT 111	3
CHEM 110/111	4
<b>Total</b>	<b>17</b>

<b>Senior Year Spring</b>	
BIOE 257	3
BIOE 357	2
TE 211 (IPD)	3
BIS 111	3
BIOE 247	4
HSS Elective #2	3
<b>Total</b>	<b>18</b>

<b>Fifth Year Fall</b>	
TE 212 (IPD)	2
BIOE Tech Elec	3
List A elective	3
FIN 125	3
COMM 130	4
<b>Total</b>	<b>15</b>

<b>Fifth Year Spring</b>	
BioE 226	4
Appr BIOE elec	3
LAW 201	3
MGT 243	3
<b>Total</b>	<b>13</b>

**Total 163**

4-year IBE degree has 15 credits of HSS and Free Electives  
5 Year dual degree plan has only 6 credits of HSS

$$136+36-15+6= 163$$