

**Applied Sciences in Engineering Curriculum (073)**  
**Packaging Engineering Concentration**

Name \_\_\_\_\_

**FRESHMAN YEAR**

01:160:159	Gen Chem for Engr	3	01:160:160	Gen Chem for Engr II	3
01:160:171	Intro to Experimentation	1	01:640:152	Calculus II	4
01:355:101	Expository Writing	3	01:750:124	Analytical Physics IB	2
01:640:151	Calculus I	4	14:440:127	Intro Computers Engr	3
01:750:123	Analytical Physics IA	2	14:440:221	Eng'g Mech: Statics	3
14:440:100	Intro to Engineering	1			

**SOPHOMORE YEAR (see also Eng'g & tech electives)**

01:640:251	Multivariable Calculus	4	01:640:244	Differential Equations	4
01:750:229	Analytical Physics IIA	3	<del>01:750:228*</del>	<del>Analytical Physics IB</del>	<del>3</del>
01:750:227	Analytical Physics lab	1	<del>01:750:230*</del>	<del>Analytical Physics IB lab</del>	<del>4</del>
			01:220:102	Micro Economics	3

**ENGINEERING ELECTIVES- 14:xxx:xxx (10 course of 3cr+ each)**

440:301	3M	440:419	3M	440:477	3M	440:418	3M
440:302	3M	440:420	3M	440:373	3M		
440:371	<b>3M</b>	440:471	<b>3M</b>	**Pkg elective	<b>3M</b>		

**TECHNICAL ELECTIVES (36cr math, sci, eng'g, or related courses) + \*4cr for 750:228/230 = 40cr**

440:222	3M	440:473	2M	TE	3M
355:302	3M	440:470	2M	TE	3M
33:799:301 Intro to Supply Chain	3M	**Pkg elective	3M		
Mechanics elective 635:314 635:407180:243 650:291	3M	**Pkg elective	3M		
Statistics elective 960:379 960:384 960:401	3M	**Pkg elective	3M		
Engineering elective 14:155:208, 14:635:206, 14:650:351, 01:160:209, 01:160:307, 14:635:361, 14:635:312	3M	TE	3M		

**HUMANITIES/SOCIALSCIENCE ELECTIVES (12cr)**

	3		3 300+
	3		3 300+

Extra Courses:
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**TOTAL CREDITS REQUIRED: 126**

Packaging Electives 14:440:378, 14:440:403, 14:440:406, 14:440:408, 14:440:468, 14:440:489/490, 16:731:5xx

## Packaging Engineering Curriculum

Name \_\_\_\_\_

### FRESHMAN YEAR

01:160:159	Gen Chem for Engr	3	01:160:160	Gen Chem for Engr	3
01:160:171	Intro to Experimentation	1	14:440:127	Intro Computers for Engr	3
01:355:101	Expository Writing	3	14:440:221	Eng'g Mech: Statics	3
14:440:100	Engineering Orientation	1	01:640:152	Calculus II	4
01:640:151	Calculus I	4	01:750:124	Analytical Physics IB	2
01:750:123	Analytical Physics IA	2	_____:_____	Hum/SocSci Elective	3
_____:_____	Hum/SocSci Elective	3			
	<b>Total</b>	<b>17</b>		<b>Total</b>	<b>18</b>

### SOPHOMORE YEAR

01:640:251	Multivariable Calculus	4	01:640:244	Differential Equations	4
01:750:227	Analytical Physics IIA	3	14:440:222	Eng'g Mech: Dynamics	3
01:750:229	Anal. Physics IIA Lab	1	33:799:301	Intro to Supply Chain	3
14:440:301	Intro to Packaging	3	_____:_____:_____	Hum/SSci Elective 300+	3
14:440:302	CAD in Packaging	3	14:440:_____	Packaging Elective*	3
01:220:102	Micro Economics	3			
	<b>Total</b>	<b>17</b>		<b>Total</b>	<b>16</b>

### JUNIOR YEAR

14:440:371	Packaging Evaluation	3	01:355:302	Sci & Tech Writing	3
14:440:470	Packaging Lab I	2	14:440:471	Distribution Packaging	3
14:440:_____	Packaging Elective	3	14:440:473	Packaging Lab II	2
_____:_____:_____	Mechanics*	3	14:440:_____	Packaging Elective*	3
_____:_____:_____	Statistics*	3	14:440:418	Pkg Development Proc*	3
	<b>Total</b>	<b>14</b>		<b>Total</b>	<b>14</b>

### SENIOR YEAR

14:440:373	Packaging Manufacturing I	3	14:440:420	Senior Design Project	3
14:440:419	Innovation and Design	3	14:440:477	Packaging Manufacturing II	3
_____:_____:_____	Hum/SSci Elective 300+	3	14:440:_____	Packaging Elective*	3
_____:_____:_____	Technical Elective	3	_____:_____:_____	Engineering Elective*	3
_____:_____:_____	Technical Elective	3	_____:_____:_____	Technical Elective	3
	<b>Total</b>	<b>15</b>		<b>Total</b>	<b>15</b>

**TOTAL CREDITS REQUIRED: 126**

#### Notes\*:

Packaging Electives 14:440:378, 14:440:403, 14:440:406, 14:440:408, 14:440:468, 14:440:489, 16:731:5xx

Mechanics Elective: 14:635:314, 14:635:407, 14:180:243, 14:650:291

Statistics Elective: 01:960:379, 01:960:384, 01:960:401

Engineering Elective: 14:155:208, 14:635:206, 14:650:351, 01:160:209, 01:160:307, 14:635:361, 14:635:312

*Undergraduate students are only allowed to take two packaging graduate courses.*

## Packaging Engineering Curriculum (with Spring Co-op)

Name \_\_\_\_\_

### FRESHMAN YEAR

01:160:159	Gen Chem for Engr	3	01:160:160	Gen Chem for Engr	3
01:160:171	Intro to Experimentation	1	14:440:127	Intro Computers for Engr	3
01:355:101	Expository Writing	3	14:440:221	Eng'g Mech: Statics	3
14:440:100	Engineering Orientation	1	01:640:152	Calculus II	4
01:640:151	Calculus I	4	01:750:124	Analytical Physics IB	2
01:750:123	Analytical Physics IA	2	_____:_____	Hum/SocSci Elective	3
_____:_____	Hum/SocSci Elective	3			
<b>Total</b>			<b>Total</b>		
<b>17</b>			<b>18</b>		

### SOPHOMORE YEAR

01:640:251	Multivariable Calculus	4	01:640:244	Differential Equations	4
01:750:227	Analytical Physics IIA	3	14:440:222	Eng'g Mech: Dynamics	3
01:750:229	Anal. Physics IIA Lab	1	33:799:301	Intro to Supply Chain	3
14:440:301	Intro to Packaging	3	14:440:302	CAD in Packaging	3
01:220:102	Micro Economics	3	14:440:____	Packaging Elective*	3
_____:_____	Hum/SSci Elective 300+	3			
<b>Total</b>			<b>Total</b>		
<b>17</b>			<b>16</b>		

### JUNIOR YEAR

14:440:371	Packaging Evaluation	3	14:440:497	Co-op	6
14:440:373	Packaging Manufacturing	3			
_____:_____	Statistics*	3			
_____:_____	Mechanics*	3			
14:440:470	Packaging Lab I	2			
01:355:302	Sci & Tech Writing	3			
<b>Total</b>			<b>Total</b>		
<b>17</b>			<b>6</b>		

### Summer

14:440:497 Co-op

### SENIOR YEAR

14:440:419	Innovation and Design	3	14:440:420	Senior Design Project	3
_____:_____	Engineering Elective	3	14:440:471	Distribution Packaging	3
14:440:____	Packaging Elective	3	14:440:473	Packaging Lab II	2
14:440:____	Packaging Elective	3	14:440:477	Packaging Manufacturing II	3
14:440:____	Packaging Elective	3	14:440:418	Pkg Development Proc	3
_____:_____	Hum/SSci Elective 300+	3	_____:_____	Technical Elective	3
<b>Total</b>			<b>Total</b>		
<b>18</b>			<b>17</b>		

**TOTAL CREDITS REQUIRED: 126**

### Notes\*:

Packaging Electives 14:440:378, 14:440:403, 14:440:406, 14:440:408, 14:440:468, 14:440:489, 16:731:5xx

Mechanics Elective: 14:635:314, 14:635:407, 14:180:243, 14:650:291

Statistics Elective: 01:960:379, 01:960:384, 01:960:401

Engineering Elective: 14:155:208, 14:635:206, 14:650:351, 01:160:209, 01:160:307, 14:635:361, 14:635:312

Co-op students may register for up to two additional courses to maintain full-time enrollment. If students elect to register for only the 6-credit co-op the University will consider them to be part-time students. They will pay part-time tuition and fees (pay per credit). Part-time status will affect most scholarships, need-based financial aid, and on-campus housing. If students enroll for at least 6 credits they are still eligible for loans, but most other aid will be canceled or reduced. Discuss this issue with Financial Aid.

## Packaging Engineering Curriculum (with Fall Co-op)

Name \_\_\_\_\_

### FRESHMAN YEAR

01:160:159	Gen Chem for Engr	3	01:160:160	Gen Chem for Engr	3
01:160:171	Intro to Experimentation	1	14:440:127	Intro Computers for Engr	3
01:355:101	Expository Writing	3	14:440:221	Eng'g Mech: Statics	3
14:440:100	Engineering Orientation	1	01:640:152	Calculus II	4
01:640:151	Calculus I	4	01:750:124	Analytical Physics IB	2
01:750:123	Analytical Physics IA	2	_____:_____	Hum/SocSci Elective	3
_____:_____	Hum/SocSci Elective	3			
	<b>Total</b>	<b>17</b>		<b>Total</b>	<b>18</b>

### SOPHOMORE YEAR

01:640:251	Multivariable Calculus	4	01:640:244	Differential Equations	4
01:750:227	Analytical Physics IIA	3	14:440:222	Eng'g Mech: Dynamics	3
01:750:229	Anal. Physics IIA Lab	1	33:799:301	Intro to Supply Chain	3
14:440:301	Intro to Packaging	3	14:440:302	CAD in Packaging	3
01:220:102	Micro Economics	3	14:440:_____	Packaging Elective*	3
_____:_____	Hum/SSci Elective 300+	3			
	<b>Total</b>	<b>17</b>		<b>Total</b>	<b>16</b>

### JUNIOR YEAR

14:440:371	Packaging Evaluation	3	14:440:_____	Packaging Elective	3
14:440:419	Innovation and Design	3	_____:_____	Statistics*	3
14:440:470	Packaging Lab I	2	_____:_____	Mechanics*	3
14:440:373	Packaging Manufacturing I	3	_____:_____	Engineering Elective*	3
14:440:_____	Packaging Elective	3	01:355:302	Sci & Tech Writing	3
_____:_____	Technical Elective	3	14:440:418	Pkg Development Proc	3
	<b>Total</b>	<b>17</b>		<b>Total</b>	<b>18</b>

### Summer

14:440:498 Co-op

### SENIOR YEAR

14:440:498	Co-op	6	14:440:420	Senior Design Project	3
			14:440:471	Distribution Packaging	3
			14:440:473	Packaging Lab II	2
			14:440:477	Packaging Manufacturing II	3
			14:440:_____	Packaging Elective	3
			_____:_____	Hum/SSci Elective 300+	3
	<b>Total</b>	<b>6</b>		<b>Total</b>	<b>17</b>

**TOTAL CREDITS REQUIRED: 126**

### Notes\*:

Packaging Electives 14:440:378, 14:440:403, 14:440:406, 14:440:408, 14:440:468, 14:440:489, 16:731:5xx

Mechanics Elective: 14:635:314, 14:635:407, 14:180:243, 14:650:291

Statistics Elective: 01:960:379, 01:960:384, 01:960:401

Engineering Elective: 14:155:208, 14:635:206, 14:650:351, 01:160:209, 01:160:307, 14:635:361, 14:635:312

Co-op students may register for up to two additional courses to maintain full-time enrollment. If students elect to register for only the 6-credit co-op the University will consider them to be part-time students. They will pay part-time tuition and fees (pay per credit). Part-time status will affect most scholarships, need-based financial aid, and on-campus housing. If students enroll for at least 6 credits they are still eligible for loans, but most other aid will be canceled or reduced. Discuss this issue with Financial Aid.

### Required Packaging Engineering Courses

14:440:301	Intro to Packaging	3 (F)	Prerequisites: 640:151
14:440:302	CAD in Packaging	3 (S)	Prerequisites: 640:152 Co requisite: 440:301,
14:440:371	Packaging Evaluation	3 (F)	Prerequisites: 440:301, 440:302, 160:160, 640:224 640:251, 750:227 Co requisite: 440:470
14:440:373	Packaging Manufacturing I	3 (F)	Prerequisites: 440:468
14:440:419	Innovative Design	3 (F)	Prerequisites: 440:371
14:440:420	Senior Design Project	3 (S)	Prerequisites: 440:419, 440:471, 440:4xx PKG develop.
14:440:471	Distribution Packaging	3 (S)	Prerequisites: 440:301, 160:160, 640:224, 640:251, 750:227, 440:222 Co Requisite: 440:473
14:440:470	Packaging Lab I	2 (F)	Co Requisite: 440:371
14:440:473	Packaging Lab II	2 (S)	Co Requisite: 440:471
14:440:477	Packaging Manufacturing II	3 (S)	Prerequisites: 440:468
14:440:497/8	Summer Internship	3 (F/S)	
14:440:418	Pkg Development Proc	3 (S)	Prerequisites: 440:301, 440:302

### Packaging Engineering Electives

14:440:378	Sustainable Packaging	3 (F)	Prerequisites: 440:301
14:440:403	Safety Eng Packaging	3 (S)	
14:440:406	Packaging Printing/Decoration	3 (S)	Prerequisites: 440:301
14:440:468	Packaging Machinery	3 (S)	Prerequisites: 440:301
14:440:489	Special Problems (Packaging)	3 (F)	Special permission only
14:440:490	Special Problems (Packaging)	3 (S)	Special permission only

### Certificate in Packaging Engineering Program

Students in any major who complete 14:440:301 and three additional packaging courses from the following list will earn a "Certificate in Packaging Engineering".

14:440:302	CAD in Packaging	3 (S)	Prerequisites: 440:301, 640:152
14:440:371	Packaging Evaluation	3 (F)	Prerequisites: 440:301, 440:222, 640:251, 750:227, 160:160
14:440:373	Packaging Manufacturing	3 (F)	Prerequisites: 440:301, 440:222
14:440:378	Sustainable Packaging	3 (F)	Prerequisites: 440:301
14:440:403	Safety Eng Packaging	3 (S)	
14:440:406	Packaging Printing/Decoration	3 (S)	Prerequisites: 440:301
14:440:468	Packaging Machinery	3 (S)	Prerequisites: 440:301
14:440:471	Distribution Packaging	3 (S)	Prerequisites: 440:301
14:440:489	Special Problems (Packaging)	3 (F)	Special permission only
14:440:490	Special Topics Manufacturing II	3 (S)	Prerequisites: 440:301

### Mechanics Electives

14:635:314	Strength of Materials		
14:635:407	Mechanical Properties of Materials		
14:180:243	Mechanics of Solids		
14:650:291	Intro to Mechanics of Materials		

### Statistics

01:960:379	Basic Problems and Statistics		
01:960:384	Intermediate Stat Analysis		
01:960:401	Basic Statistics for Research		

### Junior Electives

14:155:208	Chemical Engineering Thermodynamics I		
14:635:206	Thermodynamics of Materials		
14:650:351	Thermodynamics		
01:160:209	Element Organic Chemistry		
01:160:307	Organic Chemistry		
14:635:361	MSE of Polymers		
14:635:312	Glass Engineering		