

Name: \_\_\_\_\_

Exp. Grad.: Fall \_\_\_\_\_ / Spring \_\_\_\_\_

**Glass Engineering Science  
Curriculum by Semester**  
(For students entering Fall 2018 – Spring 2019)

<b>Semester 1</b>		<b>Semester 2</b>		<b>Semester 3</b>		<b>Semester 4</b>	
<b>Course (cr. hr.)</b>	<b>X</b>	<b>Course (cr. hr.)</b>	<b>X</b>	<b>Course (cr. hr.)</b>	<b>X</b>	<b>Course (cr. hr.)</b>	<b>X</b>
CHEM 105 (4)		CHEM 106 (4)		CEMS 214 (3)		CEMS 215 (3)	
ENGL 101 (4)*		ENGR 104 (2)		ENGR 110 (4)		CEMS 216 (3)	
ENGR 101 (2)		ENGR 11x** (1)		ENGR 360 (0)		CEMS 235 (4)	
ENGR 102 (2)		ENGR 11x** (1)		MATH 253 (4)		ENGR 360 (0)	
ENGR 160 (0)		ENGR 160 (0)		PHYS 126 (4)		MATH 271 (3)	
MATH 151 (4)		MATH 152 (4)		Hum/SS/Arts (4)		Hum/SS/Arts (4)	
Hum/SS/Arts (4)		PHYS 125 (4)					
<b>Total (16)</b>		<b>Total (16)</b>		<b>Total (19)</b>		<b>Total (17)</b>	

\* If required; does not count towards graduation.

\*\* Select from ENGR 111-116 ENGR Exploration Labs.

<b>Semester 5</b>		<b>Semester 6</b>		<b>Semester 7</b>		<b>Semester 8</b>	
<b>Course (cr. hr.)</b>	<b>X</b>	<b>Course (cr. hr.)</b>	<b>X</b>	<b>Course (cr. hr.)</b>	<b>X</b>	<b>Course (cr. hr.)</b>	<b>X</b>
CEMS 237 (4)		CEMS 251 (3)		CEMS 342 (4)		CEMS 328 (3)	
CEMS 322 (3)		CEMS 325 (2)		CEMS 423 (3)		ENGR 360 (0)	
CEMS 347 (2)		CEMS 344 (4)		ENGR 360 (0)		ENGR 480 (2)	
CEMS 349 (2)		ENGR 220 (4)		ENGR 480 (2)		Tech Elective (3)	
ENGR 305 (3)		ENGR 360 (0)		Tech Elective (3)		Tech Elective (3)	
ENGR 306 (2)		ENGR 395 (2)		Tech Elective (3)		Hum/SS/Arts (4)	
ENGR 360 (0)		Tech Elective (3)					
<b>Total (16)</b>		<b>Total (18)</b>		<b>Total (15)</b>		<b>Total (15)</b>	

**Total Credits: 132****Additional Requirements:**

1. AU Global Perspective
2. AU Physical Education Requirement
3. SOE Minimum Credit Requirement: At least 128 credits, excluding physical education
4. SOE GPA requirement and 'D' policy
5. SOE Written Communication Requirement: Typically ENGL 101 and ENGR 110. Some students may be exempt from ENGL 101, which does not count towards the minimum credits required for graduation.
6. SOE Humanities/Social Science/Arts Requirement

[Current SOE requirements](#)[Degree Evaluation](#)**Definitions of Electives:**

*Technical Electives:* (1) Most 300- and 400-level courses designated CEMS, CHEM, ENGR, MATH, MECH, PHYS, or RNEW. Exceptions include MATH 331 and some special topic courses. (2) FIN 348 **OR** MGMT 328 qualifies as a technical elective.

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**Glass Engineering Science (GES) Progress toward Degree (1/2)***(For students entering Fall 2018 – Spring 2019)*

**Directions:** Before submitting an **Application for Graduation** to the Registrar's Office, students should complete this **Progress toward Degree Form** in consultation with their advisor.

Written Communication Requirement	Req. Cr. hrs.	Substitution/Waiver/Transfer & Institution, if not AU	Cr. Hrs. or IP*
ENGL 101 or equivalent	0		
ENGR 110 – Technical Communications	4		
<b>Written Communication Total</b>	<b>4</b>		

Humanities / Social Science / Arts Requirement	Substitution/Waiver/Transfer & Institution, if not AU	Designation A,B,C,D,E, II	Cr. Hrs. or IP*
<b>Total Hum/SS/ Arts ( ≥ 16 cr. hrs.)</b>			

Humanities/Social Science/Arts Additional Requirement	Check if met (X)
At least 16 credits (excluding ENGL 101 and ENGR 110)	
At least 3 Designated Areas	
No more than 4 credit hours of Arts counting towards 16 credits	

Mathematics Requirement	Req. Cr. hrs.	Substitution/Waiver/Transfer & Institution, if not AU	Cr. Hrs. or IP*
MATH 151 – Calculus I	4		
MATH 152 – Calculus II	4		
MATH 253 – Calculus III	4		
MATH 271 – Differential Equations	3		
ENGR 305 – Engineering Statistics	3		
<b>Mathematics Total</b>	<b>18</b>		

Chemistry Requirement	Req. Cr. hrs.	Substitution/Waiver/Transfer & Institution, if not AU	Cr. Hrs. or IP*
CHEM 105 – General Chemistry I	4		
CHEM 106 – General Chemistry II	4		
<b>Chemistry Total</b>	<b>8</b>		

Physics Requirement	Req. Cr. hrs.	Substitution/Waiver/Transfer & Institution, if not AU	Cr. Hrs. or IP*
PHYS 125 – Physics I	4		
PHYS 126 – Physics II	4		
<b>Physics Total</b>	<b>8</b>		

\*Enter number of credit hours completed or IP=In progress

Name: \_\_\_\_\_

Exp. Grad.: Fall \_\_\_\_\_ / Spring \_\_\_\_\_

**Glass Engineering Science (GES) Progress toward Degree (2/2)***(For students entering Fall 2018 – Spring 2019)*

Basic Engineering Requirement	Req. Cr. hrs.	Substitution/Waiver/Transfer & Institution, if not AU	Cr. Hrs. or IP*
ENGR 101 – Introduction to Engineering	2		
ENGR 102 – Computer Aided Design	2		
ENGR 104 – Computer Aided Engineering	2		
ENGR 111-116 (pick 2) – Explorations	2		
<b>Basic Engineering Total</b>	<b>8</b>		

Glass Engineering Science Requirement	Req. Cr. hrs.	Substitution/Waiver/Transfer & Institution, if not AU	Cr. Hrs. or IP*
CEMS 214 – Structure & Properties of Materials	3		
CEMS 215 – Microscopy & Microstructural Characterization	3		
CEMS 216 – Bonding & Structure of Materials	3		
CEMS 235 – Thermodynamics of Materials	4		
CEMS 237 – Thermal Processes in Materials	4		
CEMS 251 – Mechanics of Materials	3		
CEMS 322 – Introduction to Glass Science	3		
CEMS 325 – Glass Laboratory	2		
CEMS 328 – Industrial Glass & Coatings on Glass	3		
CEMS 342 – Thermal & Mechanical Properties	4		
CEMS 344 – Properties II: Electrical, Magnetic, & Optical	4		
CEMS 347 – Spectroscopy	2		
CEMS 349 – X-ray Characterization	2		
CEMS 423 – Mass Transport in Glasses and Melts	3		
ENGR 220 – Circuit Theory I	4		
ENGR 306 – Engineering Economy	2		
ENGR 395 – Engineering Design	2		
ENGR 480 – Senior Capstone Individual Project	2		
ENGR 480 – Senior Capstone Individual Project	2		
Technical Elective I	3		
Technical Elective II	3		
Technical Elective III	3		
Technical Elective IV	3		
Technical Elective V	3		
<b>Glass Engineering Science Total</b>	<b>70</b>		

Additional Requirements	Substitution/ waivers, if any	Check if Met (X)
Engineering seminar		
Global Perspective		
ENGR GPA and “D” Policy	N/A	
Physical Education / Wellness I		
Physical Education / Wellness II		
<b>Total Eligible Credits <math>\geq</math> 132</b>	<b>(excluding ENGL 101 &amp; Phys. Ed. Credits)</b>	

\*Enter number of credit hours completed or IP=In progress