

# PATHWAYS

## Engineering Science (A.S. Degree)

### FALL 2020-SPRING 2021

#### REMEDIAL SEQUENCE (if required)

ESL 1 (8) ▶▶  ESL 2 (6) ▶▶  ESL 3 (6) ▶▶  ENG 9 (4)

ENG 11 (4) ▶▶  ENG 2 (4)

RDL 1<sup>1</sup> (4) ▶▶  RDL 2 (6)

MTH 1 (4) ▶▶  MTH 5 (6) ▶▶  MTH 6 (6)

CHM 2 (4)

#### GRADUATION REQUIREMENTS

GPA ≥ 2.0  Writing Intensive 1  Writing Intensive 2

#### FRESHMAN SEMINAR

FYS 11

<sup>1</sup>Students with prior ENG 1/RDL 1 placements (or English Proficiency Index < 50) will now take ENG 4 or RDL 4. Passing ENG 4 or RDL 4 will allow them to register for ENG 110.

<sup>2</sup>This program has received a waiver to require students to take MTH 30 or MTH 31 to fulfill Required Area B, PHY 31 to fulfill Required Core C, PHY 32 to fulfill Flexible Area E and CHM 11 to fulfill the 6<sup>th</sup> Flexible Area course. Note that MTH 30 is a prerequisite to MTH 31. If students transferring into this program complete different courses in these areas, they will be certified as having completed the Common Core requirements, but it may not be possible for them to finish their degree within the regular number (60) of credits.

<sup>3</sup>In choosing courses to fulfill Pathways Flexible core requirements for Areas A, B, C, and D, students are strongly advised to select courses from no fewer than three (3) different departments.

<sup>4</sup>See Degree map at: <http://www.bcc.cuny.edu/academics/academic-advising/degree-maps/> for semester-by-semester sequence.

Note: Students are encouraged to begin Transfer Planning early in their Academic careers. Please visit the Transfer Planning web site for the timeline as well as the information on Articulation and transfer: <http://www.bcc.cuny.edu/TransferCounseling/>

#### REQUIRED COMMON CORE

<input type="checkbox"/> A	English Composition ENG 110 <sup>1</sup> OR ENG 111 AND ENG 112 OR ENG 113 OR ENG 114 OR ENG 115 OR ENG 116	6
<input type="checkbox"/> B	Mathematical and Quantitative Reasoning <sup>2</sup> MTH 30 Pre-calculus Mathematics OR MTH 31 Analytic Geometry & Calculus I	4
<input type="checkbox"/> C	Life and Physical Sciences <sup>2</sup> PHY 31 Physics I	4
<b>Subtotal:</b>		<b>14</b>

#### FLEXIBLE COMMON CORE (Course list at: <http://www.bcc.cuny.edu/pathways/?p=Flexible-Common-Core>)

Students can complete no more than two courses from any one discipline or interdisciplinary field.		
<input type="checkbox"/> A	World Cultures and Global Issues <sup>3</sup>	3
<input type="checkbox"/> B	US Experience in its Diversity <sup>3</sup>	3
<input type="checkbox"/> C	Creative Expression <sup>3</sup>	3
<input type="checkbox"/> D	Individual and Society <sup>3</sup>	3
<input type="checkbox"/> E	Scientific World <sup>2</sup> PHY 32 Physics II AND CHM 11 General Chemistry I	8
<b>Subtotal:</b>		<b>20</b>

#### MAJOR REQUIREMENTS<sup>4</sup>

<input type="checkbox"/> EGR 11	Introduction to Engineering Design	1
<input type="checkbox"/> EGR 21	Analysis Tool for Engineers OR	2-3
<input type="checkbox"/> EGR 31	Circuit Analysis	
<input type="checkbox"/> MTH 31	Analytic Geometry & Calculus I	0-4
<input type="checkbox"/> MTH 32	Analytic Geometry & Calculus II	5
<input type="checkbox"/> MTH 33	Analytic Geometry & Calculus III	5
<input type="checkbox"/> MTH 34	Differential Equations & Selected Topics in Advanced Calculus	4
<input type="checkbox"/> PHY 33	Physics III	4
<input type="checkbox"/>	<b>RESTRICTED ELECTIVES</b> <b>Restricted Electives</b> Select from the following	0-5
	CHM 12 General Chemistry II OR CHM 22 General Chemistry II with Qualitative Analysis	
	CHM 31 Organic Chemistry I	
	EGR 21 Analysis Tools for Engineers	
	EGR 31 Circuit Analysis	
	ELC 96 Digital Systems I	
<b>Subtotal:</b>		<b>26</b>
<b>TOTAL</b>		<b>60</b>