

# AS: Engineering Science

**Curriculum Chair:** Prof. John Collins TECH-136 Tel # (914) 606-6941 Email: [John.Collins@sunywcc.edu](mailto:John.Collins@sunywcc.edu)

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## Developmental Courses as required based on placement scores

<input type="checkbox"/>	<b>No Developmental Courses Required</b>
<input type="checkbox"/>	<b>ENG 91</b> Writing for College 1 – Score of 4 E Code 1 and below Choose an item.
<input type="checkbox"/>	<b>ENG 92</b> Writing for College 2 – Score of 6 E Code 2 Choose an item.
<input type="checkbox"/>	<b>ESL 94</b> Academic Writing 1 – Score of 5 or 6 E Code 6 Choose an item.
3 <input type="checkbox"/>	<b>ESL 122</b> Academic Writing 2 – Score of 7 E Code 7 Choose an item.
<input type="checkbox"/>	<b>MATH 92</b> Pre-Algebra – Arithmetic score 44 and below, Elementary Algebra 54 and below Choose an item.
<b>OR</b> <input type="checkbox"/>	<b>MATH 93</b> Beginning Algebra – Arithmetic score 45 and above, Elementary Algebra 54 and below Choose an item.
	<b>MATH 94</b> Mathematical Literacy for College Students – Arithmetic score 45 and above, Elementary Algebra 54 and below Choose an item.
<input type="checkbox"/>	<b>READ 93</b> Foundation of College Reading – Score of 57 and below Choose an item.
3 <input type="checkbox"/>	<b>READ 105</b> Analytical Reading – Score of 58 and higher Choose an item.

## New General Education Requirements

3 <input type="checkbox"/>	<b>ENG 101</b> – Writing and Research <b>OR ENG 101H</b> Choose an item.
3 <input type="checkbox"/>	<b>ENG 102</b> – Writing and Literature <b>OR ENG 102H</b> Choose an item.
4 <input type="checkbox"/>	<b>MATH 181<sup>1</sup></b> – Calculus 1: <b>MATH 161 or 165 are the prerequisites.</b> Choose an item.
4 <input type="checkbox"/>	<b>MATH 191</b> – Calculus 2: <b>MATH 181 is the prerequisite.</b> Choose an item.
4 <input type="checkbox"/>	<b>MATH 230</b> – Calculus 3: <b>MATH 191 is the prerequisite.</b> Choose an item.
4 <input type="checkbox"/>	<b>MATH 240</b> – Differential Equations: <b>MATH 191 is the prerequisite.</b> Choose an item.
5 <input type="checkbox"/>	<b>CHEM 107</b> – Inorganic Chemistry 1 and Lab: <b>MATH 130, 135 or higher level MATH course are the prerequisites.</b> Choose an item.
5 <input type="checkbox"/>	<b>PHYS 121</b> – Engineering Physics 1 and Lab: <b>MATH 161 is the prerequisite and MATH 181 is a co-requisite.</b> Choose an item.
5 <input type="checkbox"/>	<b>PHYS 122</b> – Engineering Physics 2 and Lab: <b>PHYS 121 or equivalent and MATH 181 are the prerequisite and MATH 191 or instructor’s permission is a co-requisite.</b> Choose an item.
	<b>SOCIAL SCIENCES GENERAL ED REQUIREMENTS – Select a 3 credit course:</b> ANTHR 101, 102, 103, 201, CJ 111, ECON 101, 101H, 102, 102H, GEOG 101, HSERV 102, 200, LIN 201, POLSC 111, 111H, 115, PSYCH 101, 101H, 103, 103H, 107, 109, 110, 111, 112H, SOC 101, 101H, 102, 103, 104
3 <input type="checkbox"/>	

<sup>1</sup> Calculus I is the prerequisite or co requisite Engineering Physics I & Lab.

	<p align="center"><b>THE ARTS, FOREIGN LANGUAGE, OTHER WORLD CIVILIZATIONS, AMERICAN HISTORY or WESTERN CIVILIZATION GENERAL ED REQUIREMENTS – Select a 3/4 credit course:</b></p> <p><b>ART</b> 101, 102, 103, 104, 105, 106, 108, 109, 109A, 110, 111, 112, 125, 129, 130, 133, 134, 135, 137, 138, 140, 141, 147, 201, 203, 212, 265, <b>DANCE</b> 101, 102, 107, 120, 121, 205, 207, <b>FILM</b> 100, 101, 102, 130 <b>MUSIC</b> 110, 110H, 111, 120, 121, 130, 131, 132, 133, 150, 230, 231, 232, 233, <b>THEAT</b> 111, 113, 201</p> <p><b>CHINS</b> 102, <b>FREN</b> 101, 102, 201, <b>ITAL</b> 101, 102, 103, 201, 201H, 202, 202H, 250, <b>SPAN</b> 101, 102, 103, 104, 201, 201H, 202, 202H, 203, 204, <b>ANTHR</b> 120, 210, 215H, <b>HIS</b> 119, 128, 129, 131, <b>POLSC</b> 113, <b>ART</b> 108, 109, <b>HIS</b> 101, 102, 104, 106, 110, 111, 112, 121*, 133**, 134**, <b>POLSC</b> 102, 104, 107</p> <p align="center"><i>*Students who complete this course cannot use HIS 133 or 134 to fulfill degree and/or general education requirements</i></p> <p align="center"><i>**Students who complete this course cannot use HIS 121 to fulfill degree and/or general education requirements</i></p>
3□/4□	

Degree Requirements	
3□	<b>COMSC 101</b> – Computer Programming 1: <b>MATH 130, 135, 161, 181 or 191</b> are the prerequisites. Choose an item.
3□	<b>MECH 109</b> – Intro to Engineering: <b>MATH 181 or higher</b> is the co-requisite.
3□	<b>MECH 126</b> – Statics: <b>MATH 181 and PHYSC 121</b> are the prerequisites. Choose an item.
	<b>ENGINEERING ELECTIVES: Select four courses from list below (Minimum 12 credits). SUGGESTED ENGINEERING ELECTIVES CONSULT CURRICULUM CHAIR.</b>
3□	
3□	
3□	
3□	

SEEN BY:

Completed credits      of 65 required

## **ENGINEERING ELECTIVES:**

- **AEROSPACE** should take **MECH 227: Dynamics**: (Prerequisite: **MECH 126 – Statics**), **CIVIL 221: Strength of Materials**: (Prerequisite: **MATH 181 – Calculus 1** and **PHYSC 101A: Engineering Physics 1**), **ELEC 255 – Circuits for Engineers** (Corequisite: **MATH 165 – Technical Mathematics with Calculus**)
- **CIVIL** should take **MECH 227: Dynamics**: (Prerequisite: **MECH 126 – Statics**), **CIVIL 221 – Strength of Materials**: (Prerequisite: **MATH 181 – Calculus 1** and **PHYSC 101A – Engineering Physics 1**), **CIVIL 214 – Surveying 1** (Prerequisites: **MATH 135 – College Algebra with Trigonometry**) **Offered fall semester**, and **Natural Sciences Electives\***
- **BIOMEDICAL/CHEMICAL** should take **CHEM 111 – Inorganic Chem 2 & lab** (Prerequisites: **CHEM 107 – Inorganic Chemistry 1 (and Lab)**, and one of the following MATH courses: **MATH 130 – College Algebra: Functions & Models**; or **MATH 135 – College Algebra with Trigonometry**, or a higher level math course), **CHEM 201 – Organic Chem 1** (Prerequisite: **CHEM 111 – Inorganic Chem 2 and lab. Offered fall semesters and Summer Session 1**), **CHEM 205 – Organic Chem 2** (Prerequisite: **CHEM 201 – Organic Chem 1 Offered spring semesters and Summer Session 2**)
- **COMPUTER ENGINEERING** should take **COMSC 110 – Computer Programming 2**, (Prerequisites: **COMSC 101 – Computer Programming 1** with a grade of “C” or higher), **COMSC 201A – Data Structures** (Prerequisites: **COMSC 101 – Computer Programming 1** with a grade of “C” or higher), **ELEC 223 – Digital Logic & Switching**, **ELEC 255 – Circuits for Engineers** (Corequisite: **MATH 165 – Technical Mathematics with Calculus**)
- **ELECTRIAL** should take **ELEC 255 – Circuits for Engineers** (Corequisite: **MATH 165 – Technical Mathematics with Calculus**), **MATH 215 – Linear Algebra** (Prerequisites: **MATH 191 – Calculus 2 Offered once a year**), **ELEC 223 – Digital Logic & Switching**
- **ENVIRONMENTAL** should take **CHEM 111 – Inorganic Chem 2 &lab** (Prerequisites: **CHEM 107 – Inorganic Chemistry 1 (and Lab)**, and one of the following MATH courses: **MATH 130 – College Algebra: Functions & Models**; or **MATH 135 – College Algebra with Trigonometry**, or a higher level math course), **CIVIL 221: Strength of Materials**: (Prerequisite: **MATH 181 – Calculus 1** and **PHYSC 101A: Engineering Physics 1**), **BIOL 115 – General Bio 1 & Lab**
- **INDUSTRIAL** should take **CHEM 111 – Inorganic Chem 2 & lab** (Prerequisites: **CHEM 107 – Inorganic Chemistry 1 (and Lab)**, and one of the following MATH courses: **MATH 130 – College Algebra: Functions & Models**; or **MATH 135 – College Algebra with Trigonometry**, or a higher level math course), **MECH 227 – Dynamics**: (Prerequisite: **MECH 126 – Statics**), **CIVIL 221 – Strength of Materials**: (Prerequisite: **MATH 181 – Calculus 1** and **PHYSC 101A – Engineering Physics 1**)
- **MECHANICAL** should take **MECH 227: Dynamics**: (Prerequisite: **MECH 126 – Statics**), **CIVIL 221: Strength of Materials**: (Prerequisite: **MATH 181 – Calculus 1** and **PHYSC 101A: Engineering Physics 1**), **MECH 127 – Intro to Thermodynamics** (Corequisite: **PHYSC 111 – College Physics 1 & Lab** Prerequisites: **MATH 135 – College Algebra with Trigonometry**), **ELEC 255 – Circuits for Engineers** (Corequisite: **MATH 165 – Technical Mathematics with Calculus**)

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Academic Plan		Completed credits				of 65 required
		<b>Fall/Spring</b>		<b>Fall/Spring</b>		
<u><b>Class</b></u>	<u><b>Credits</b></u>	<u><b>Class</b></u>	<u><b>Credits</b></u>	<u><b>Class</b></u>	<u><b>Credits</b></u>	
		<b>Fall/Spring</b>		<b>Fall/Spring</b>		
<u><b>Class</b></u>	<u><b>Credits</b></u>	<u><b>Class</b></u>	<u><b>Credits</b></u>	<u><b>Class</b></u>	<u><b>Credits</b></u>	