

ASSOCIATE DEGREE IN ENGINEERING (Transfer)

Catalog Description:

The Associate of Science Degree in Engineering offered by Ohlone College is designed to prepare students for studying engineering at most universities. While the core courses required in the A.S. Degree in Engineering will fulfill the lower division major requirements at many universities, students are advised to meet with their counselor to assess the course requirements for specific universities. This program will enable students to develop a strong foundation in the physical sciences and mathematics. The knowledge and skills acquired by students in this program will also enhance their success in obtaining entry-level jobs that require two years of engineering study.

Program Requirements (A. S. Degree in Engineering)

Required Core Courses:

Math 101A	Calculus with Analytical Geometry I	5 units
Math 101B	Calculus with Analytical Geometry II	5 units
Math 101C	Calculus with Analytical Geometry III	5 units
Math 104	Differential Equations	5 units
Physics 140	Mechanics	4 units
Physics 141	Electricity & Magnetism	4 units
Physics 142	Heat, Light & Modern Physics	4 units
Engi 101	Introduction to Engineering	3 unit
CS 116	C++ Programming	4 units

Select two (2) of the following Engineering courses: 6-7 units

Engi 120*	Engineering Mechanics/Statics	3 units
Engi 130*	Electric Circuit Analysis	4 units
Engi 140*	Materials Engineering	4 units

**must be completed at Ohlone College*

Note: At least 50% of the Core courses for the A.S. Degree in Engineering must be completed at Ohlone College (including Engi 120, 130, 140)

Recommended Core Courses: (The following courses are recommended because they are required in the lower division of some baccalaureate-granting universities)

Chem. 101A	General Chemistry-1	(5 units)
Chem. 101B	General Chemistry-2	(5 units)
Engi 115	Engineering Communications	(4 units)
Math 103	Introduction to Linear Algebra	(3 units)

Total Required Units in Core Courses: 43-44 units

General Education Requirements for the Associate Degree from Ohlone College:

Choose one: Option A "Ohlone College GE Plan" or Option B "CSU GE Plan or Option C "IGETC Plan"

Option A: Ohlone College GE Plan

*Area 1. Natural Science (6 units) – This is satisfied by completing the above courses.

Area 2. Social Science (3 – 4 units) – Complete either Hist. 117A (3 units) or PS 102 (3 units)

Area 3. Fine Arts/Humanities (3 units) – Complete at least 3 units from approved FA or Humanities list

Area 4. Analytical Thinking and Oral Communication

English Composition – Complete English 101A (4 units)

*Analytical Thinking – This is satisfied by completing the above courses

*Math Proficiency – This is satisfied by completing the above courses

Area 5. Physical Education/Wellness (1 Unit) – Complete on approved option

Area 6. Cultural Diversity (3 units) – Complete one of the approved courses

*Area 7. Tech Tools (2.5+ units)

Electives – To bring the total units for the A.S. Degree to 60

Note: Students who plan to transfer to a CSU MUST complete English 101A, Oral Communication, Critical Thinking and Quantitative Reasoning with a "C" or better. It is recommended that all students who plan to transfer to a CSU follow the CSU General Education pattern and request a G.E. Certification from Ohlone College before transferring. It is imperative for students to make an appointment to see counselor to determine the appropriate G.E. pattern for the CSU and UC system. Students should also meet with their counselor to develop student education plan (SEP) – since transfer requirement may vary depending upon which major specialty in engineering the students will be pursuing at the transfer institution. It is also advisable for students to check with the transfer university of their choice for specific math, chemistry, physics, computer science and engineering requirements.

2-Year Curriculum Guide

(for students with assessment placements of English 101A and Math 101A)*

<p><u>1st Semester</u></p> <table style="width: 100%; border-collapse: collapse;"> <tr><td>Math 101A</td><td style="text-align: right;">(5 units)</td></tr> <tr><td>English 101A</td><td style="text-align: right;">(4 units)</td></tr> <tr><td>Engi 101</td><td style="text-align: right;">(3 units)</td></tr> <tr><td>CS 102</td><td style="text-align: right;">(4 units)</td></tr> <tr><td>Social Science</td><td style="text-align: right;">(3 units)</td></tr> <tr><td colspan="2" style="border-top: 1px solid black; text-align: right;">19 units</td></tr> </table>	Math 101A	(5 units)	English 101A	(4 units)	Engi 101	(3 units)	CS 102	(4 units)	Social Science	(3 units)	19 units		<p><u>3rd Semester</u></p> <table style="width: 100%; border-collapse: collapse;"> <tr><td>Math 101C</td><td style="text-align: right;">(5 units)</td></tr> <tr><td>Physics 141</td><td style="text-align: right;">(4 units)</td></tr> <tr><td>Engi 120 or 140</td><td style="text-align: right;">(3 - 4 units)</td></tr> <tr><td>English 101B</td><td style="text-align: right;">(4 units)</td></tr> <tr><td>PE</td><td style="text-align: right;">(0.5 unit)</td></tr> <tr><td colspan="2" style="border-top: 1px solid black; text-align: right;">16.5 units</td></tr> </table>	Math 101C	(5 units)	Physics 141	(4 units)	Engi 120 or 140	(3 - 4 units)	English 101B	(4 units)	PE	(0.5 unit)	16.5 units	
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3-Year Curriculum Guide:

(for students with assessment placements of English 151B and Math 181)*

<p><u>1st Semester</u></p> <table style="width: 100%; border-collapse: collapse;"> <tr><td>Math 181</td><td style="text-align: right;">(3 units)</td></tr> <tr><td>English 151B</td><td style="text-align: right;">(4 units)</td></tr> <tr><td>English 163</td><td style="text-align: right;">(3 units)</td></tr> <tr><td>CS 102</td><td style="text-align: right;">(4 units)</td></tr> <tr><td>Engi 101</td><td style="text-align: right;">(3 unit)</td></tr> <tr><td colspan="2" style="border-top: 1px solid black; text-align: right;">17 units</td></tr> </table>	Math 181	(3 units)	English 151B	(4 units)	English 163	(3 units)	CS 102	(4 units)	Engi 101	(3 unit)	17 units		<p><u>3rd Semester</u></p> <table style="width: 100%; border-collapse: collapse;"> <tr><td>Math 101A</td><td style="text-align: right;">(5 units)</td></tr> <tr><td>Chem. 101A</td><td style="text-align: right;">(5 units)</td></tr> <tr><td>English 101B</td><td style="text-align: right;">(4 units)</td></tr> <tr><td colspan="2" style="border-top: 1px solid black; text-align: right;">16 units</td></tr> </table>	Math 101A	(5 units)	Chem. 101A	(5 units)	English 101B	(4 units)	16 units		<p><u>5th Semester</u></p> <table style="width: 100%; border-collapse: collapse;"> <tr><td>Math 101C</td><td style="text-align: right;">(5 units)</td></tr> <tr><td>Physics 141</td><td style="text-align: right;">(4 units)</td></tr> <tr><td>Engi 120 or 140</td><td style="text-align: right;">(3 or 4 units)</td></tr> <tr><td>Transfer GE or Math 103 **</td><td style="text-align: right;">(3 units)</td></tr> <tr><td colspan="2" style="border-top: 1px solid black; text-align: right;">15 units</td></tr> </table>	Math 101C	(5 units)	Physics 141	(4 units)	Engi 120 or 140	(3 or 4 units)	Transfer GE or Math 103 **	(3 units)	15 units			
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