

# ASSOCIATE IN ENGINEERING SCIENCE



College(s): DA, HW, TR, WR

Program Code: 0100

The Associate in Engineering Science (AES) degree offers courses required for transfer to a four-year college or university for students majoring in engineering sciences. Completion of the AES degree does not fulfill the requirements of the IAI General Education Core Curriculum (IAI GECC). City Colleges of Chicago requires that the degree is inclusive of a minimum of 22 semester hours of General Education. A student must complete the general education requirements of the college or university to which she/he transfers.

## Program Requirements

Code	Title	Hours
<b>General Education Coursework</b>		
ENGLISH 101	Composition	3
ENGLISH 102	Composition	3
MATH 207	Calculus & Analytic Geometry I	5
CHEM 201	General Chemistry I	5
One Fine Arts & Humanities course <sup>1</sup>		3
One Social and Behavioral Sciences course <sup>1</sup>		3
<b>Required Degree Core</b>		
ENGR 190	Computer Programming for Engineers	3
or CIS 142	C++ Object Oriented Programming I	
MATH 208	Calculus & Analytic Geometry II	5
MATH 209	Calculus & Analytic Geometry III	5
MATH 210	Differential Equations	3
PHYSICS 235	Engineering Physics I: Mechanics & Wave Motion	5
PHYSICS 236	Engineering Physics II: Electricity & Magnetism	5
<b>Program Electives</b>		
Select a minimum of 16 credit hours of program electives (p. 1)		16
<b>Total Hours</b>		<b>64</b>

<sup>1</sup> One of the courses in the Humanities or Social and Behavioral Sciences category must satisfy the Human Diversity requirement.

## Program Electives

Code	Title	Hours
BIOLOGY 115	Human Biology	4
BIOLOGY 121	Biology I	5
CHEM 203	General Chemistry II	5
CHEM 205	Organic Chemistry I	6
CHEM 207	Organic Chemistry II	6
CIS 144	Java Object Oriented Programming I	3
CIS 242	C++ Object Oriented Programming II	3
CIS 244	Java Object Oriented Programming II	3
ENGR 111	Intro To The Engineering Profession	2
ENGR 131	Engineering Graphics & Intro to Design	3
ENGR 206	Elements of Mechanics-Statics	3
ENGR 215	Electrical Circuit Analysis	5
ENGR 250	Engineering Projects	2
MATH 146	Discrete Mathematics	4
MATH 212	Linear Algebra	3
PHYSICS 215	Statics	3
PHYSICS 216	Dynamics	3
PHYSICS 217	Mechanics Of Materials	3
PHYSICS 237	Engineering Physics III: Heat light and Modern Physics	5

## AES Transfer Pathways

*Recommended electives may vary by transfer institution. Choose your courses with your College Advisor.*

- Aerospace Engineering, Associate in Engineering Science (<https://catalog.ccc.edu/transfer-pathways/Aerospace-Engineering-AES/>)

- Agricultural Engineering, Associate in Engineering Science (<https://catalog.ccc.edu/transfer-pathways/agricultural-engineering-aes/>)
- Architectural Engineering, Associate in Engineering Science (<https://catalog.ccc.edu/transfer-pathways/architectural-engineering-aes/>)
- Bioengineering, Associate in Engineering Science (<https://catalog.ccc.edu/transfer-pathways/bioengineering-aes/>)
- Chemical Engineering, Associate in Engineering Science (<https://catalog.ccc.edu/transfer-pathways/chemical-engineering-aes/>)
- Civil Engineering, Associate in Engineering Science (<https://catalog.ccc.edu/transfer-pathways/civil-engineering-aes/>)
- Computer Engineering, Associate in Engineering Science (<https://catalog.ccc.edu/transfer-pathways/computer-engineering-aes/>)
- Computer Science, Associate in Engineering Science (<https://catalog.ccc.edu/transfer-pathways/computer-science-aes/>)
- Cybersecurity Engineering, Associate in Engineering Science (<https://catalog.ccc.edu/transfer-pathways/cybersecurity-engineering-aes/>)
- Electrical Engineering, Associate in Engineering Science (<https://catalog.ccc.edu/transfer-pathways/electrical-engineering-aes/>)
- Engineering Mechanics, Associate in Engineering Science (<https://catalog.ccc.edu/transfer-pathways/engineering-mechanics-aes/>)
- Engineering, Associate in Engineering Science (<https://catalog.ccc.edu/transfer-pathways/engineering-aes/>)
- Environmental Engineering, Associate in Engineering Science (<https://catalog.ccc.edu/transfer-pathways/environmental-engineering-aes/>)
- Human Development and Family Studies, Associate in Arts (<https://catalog.ccc.edu/transfer-pathways/human-development-family-studies-associate-arts/>)
- Industrial Engineering, Associate in Engineering Science (<https://catalog.ccc.edu/transfer-pathways/industrial-engineering-aes/>)
- Materials Science and Engineering, Associate in Engineering Science (<https://catalog.ccc.edu/transfer-pathways/materials-science-and-engineering-aes/>)
- Mechanical Engineering, Associate in Engineering Science (<https://catalog.ccc.edu/transfer-pathways/mechanical-engineering-aes/>)
- Nuclear, Plasma, Radiological Engineering, Associate in Engineering Science (<https://catalog.ccc.edu/transfer-pathways/nuclear-plasma-radiological-engineering-aes/>)
- Systems Engineering and Design, Associate in Engineering Science (<https://catalog.ccc.edu/transfer-pathways/systems-engineering-and-design-aes/>)