

# AE - ASSOCIATE IN ENGINEERING 2020-2021 Credential Year

<b>Schoolcraft Degree and Program Code</b>	<b>AE - ASSOCIATE IN ENGINEERING</b> <span style="float: right;">#AE.00039</span>
<b>Description</b>	<p>The associate in engineering (AE) degree is for students who plan to pursue a baccalaureate degree in engineering. Schoolcraft students may complete the degree by following the requirements specified by the transfer institution and Schoolcraft College (SC).</p>
<b>Degree Focus</b>	<p>Transfer: Completion of a broad distribution of liberal arts courses in the English, humanities, mathematics, natural sciences, and social sciences distribution areas that may be used to meet transfer requirements toward a baccalaureate degree with an intended focus toward engineering and related fields.</p> <p>Some liberal arts courses cannot be used to satisfy the Michigan Transfer Agreement (MTA). Please see your advisor, or review the MTA course list on schoolcraft.edu/transfer and select "Michigan Transfer Agreement".</p>
<b>English Communication</b>	<p>Minimum 6 credit hours.</p> <p>Completion of a minimum of two English communication courses within a set of courses. Students seeking to fulfill Michigan Transfer Agreement (MTA) requirements should complete one of the following sets of courses:</p> <p style="text-align: center;"> <span style="color: blue;">ENG 101<sub>M</sub> and ENG 102<sub>M</sub>*</span>      or      <span style="color: blue;">ENG 102<sub>M</sub> and ENG 221<sub>M</sub>*</span>      or  <span style="color: blue;">ENG 102<sub>M</sub> and COMA 103<sub>M</sub>+*</span>      or      <span style="color: blue;">ENG 221<sub>M</sub> and COMA 103<sub>M</sub>+*</span> </p> <p>The following set of courses also can be used to meet the English Communication requirement of this degree, but <b>will not meet MTA requirements</b>. Check requirements of the transfer institution.</p> <p style="text-align: center;"><span style="color: blue;">ENG 101<sub>M</sub> and ENG 116</span></p>
<b>Humanities+</b>	<p>Minimum 4 credit hours.</p> <p>Completion of a minimum of two humanities courses from two different disciplines. Art, Communication Arts, English (Literature), Foreign Language, History<sup>+</sup>, Humanities, Music, Philosophy or Theatre</p>
<b>Mathematics</b>  <b>Natural Sciences</b>	<p>Minimum 34 credit hours.</p> <p>Completion of a minimum of one mathematics course from Schoolcraft's approved Michigan Transfer Agreement (MTA) course list.  <span style="color: blue;">MATH 150<sub>M</sub>, 151<sub>M</sub>, 240<sub>M</sub> and 252<sub>M</sub></span> required</p> <p>Completion of a minimum of two natural science courses from two different disciplines. One must be a lab science course.  <span style="color: blue;">CHEM 111<sub>M</sub><sup>L</sup></span> required  <span style="color: blue;">PHYS 211<sub>M</sub><sup>L</sup> and 212<sub>M</sub><sup>L</sup></span> required            Biology, Chemistry, Geography<sup>+</sup>, Geology, Nutrition and Food Science or Physics</p>
<b>Social Sciences+</b>	<p>Minimum 6 credit hours.</p> <p>Completion of a minimum of two social science courses from two different disciplines.  <span style="color: blue;">ECON 201<sub>M</sub> or ECON 202<sub>M</sub></span> required            Anthropology, Economics, Geography<sup>+</sup>, History<sup>+</sup>, Political Science, Psychology or Sociology</p>

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<b>Major Area of Study</b>	Minimum 10 credit hours in liberal arts or occupational courses that satisfy transfer and academic goals and requirements. <b>ENGR 201</b> recommended
<b>General Electives</b>	<b>ENGR 202</b> recommended <b>ENGR 203</b> recommended
<b>Course Level</b>	All courses that apply to this degree must be at the 100- through 400-level with a minimum grade point average (GPA) of 2.0.
<b>Credit Requirement</b>	Minimum 60 credit hours.
<b>Institutional Requirements</b>	<p>Completion of all Schoolcraft College Core Abilities and a minimum of 16 credit hours associate-level Schoolcraft College General Education requirements in English, humanities, mathematics, natural sciences and social sciences.</p> <p>The Michigan Transfer Agreement (MTA) may be used to fulfill the Schoolcraft College General Education requirements.</p> <p><u>PLEASE NOTE:</u> Students may not use the same History course to satisfy both the humanities and social sciences distribution area. Additionally, students may not use <b>COMA 103M<sup>+</sup>*</b> to satisfy both the humanities and English communications distribution area.</p> <p>Only certain Geography courses can be used for a natural science or social science course.</p> <p>There are three (3) types of courses that may be used toward fulfilling associate degrees at Schoolcraft College: liberal arts, applied liberal arts, and occupational. Applied liberal arts or occupational courses may not account for more than 15 credits in an AE degree. While the applied liberal arts courses provide immediate skill building opportunities, their transferability and value should be discussed with an academic advisor. Most transferable courses may be found in the Schoolcraft College MTA requirements.</p>
<b>Types of Courses</b>	<p>There are two primary types of courses that may be used towards fulfilling credentials<sup>c</sup> such as certificate, associate, or bachelor degrees at Schoolcraft College (SC). The nature, goals, and use of each course determines the type of course and how it applies toward each credential at Schoolcraft College or at other transfer institutions. The two types of courses include occupational and liberal arts courses.</p> <ol style="list-style-type: none"> <li>1. Occupational Courses – Occupational courses have a direct career relationship and focus on developing necessary knowledge and skills to enter the work force within the chosen field of study-e.g., <b>ACCT 103, EMT 115, MFG 211, WELD 120</b>. Courses may or may not transfer to another institution and are written in bold font. No SC occupational course may be used toward SC General Education (SCGE) or to meet the requirements for Michigan Transfer Agreement (MTA)<sup>^ T</sup>.</li> <li>2. Liberal Arts Courses – Liberal Arts courses provide general knowledge and theory in the arts, language and communication, humanities, natural sciences, math and social sciences areas. Liberal Arts courses may fall into three categories:             <ol style="list-style-type: none"> <li>a. Applied Liberal Arts – courses that are focused on building particular skills through the practice and application of talents or concepts-e.g., <i>ART 248, ENG 205, CAB 100, THEA 204, MUSIC 114, COLLS 105</i>. Applied Liberal Arts courses typically do not transfer to other institutions and are written in italicized font. A subset of these courses may be used toward meeting the requirements for SCGE.</li> <li>b. Liberal Arts used for Schoolcraft College General Education (SCGE) – courses that are theory-based or application-based which offer a wide distribution of experiences to students across multiple disciplines-e.g., ENG 100, PSYCH 153M, HIST 138M<sup>+</sup>, MATH 106. These courses may or may not transfer to another institution. The Liberal Arts courses that do not transfer are typically applied in nature and are written in plain text-e.g., MATH 106. The Liberal Arts courses</li> </ol> </li> </ol>

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	<p>that are intended to transfer are typically theory-based and are denoted with a subscript<sub>M</sub>-e.g., PSYCH 153<sub>M</sub>, see paragraph 2C.</p> <p>c. Liberal Arts Courses used for Transfer – courses which are theory-based and offer a wide distribution of experiences to students across multiple disciplines-e.g., PSYCH 153<sub>M</sub>, BIOL 101<sub>M</sub><sup>L</sup>, ECON 201<sub>M</sub>, ART 120<sub>M</sub>, MATH 111<sub>M</sub>. These courses are a sub-set of the Liberal Arts used for SCGE which meet both SCGE and the requirements for the Michigan Transfer Agreement (MTA). The MTA identified courses are intended to meet the general education requirements at transfer institutions and are denoted with a subscript<sub>M</sub>-e.g., MATH 111<sub>M</sub>. Information about the MTA requirements may be found at <a href="https://www.macrao.org/">https://www.macrao.org/</a>.</p> <p>° = Credentials – a documentation of satisfactory completion of courses that result in a nationally recognized acknowledgement of learning and skills. Schoolcraft College offers skills certificate, certificate, associate and bachelor degree credentials.</p> <p>^ = Courses used for SCGE and MTA – a list of specific disciplines and course numbers within each distribution area that meet the requirements for Schoolcraft General Education (SCGE) and the Michigan Transfer Agreement (MTA) may be found here: <a href="http://www.schoolcraft.edu/catalog">http://www.schoolcraft.edu/catalog</a>.</p> <p>T = Transferability of courses should be discussed with an academic advisor and may be dependent on the receiving institution.</p>
<p><b>Key</b></p>	<p>Plain text = Liberal Arts courses used to satisfy Schoolcraft College General Education (SCGE) requirements.</p> <p><sub>M</sub> = Liberal Arts courses used to satisfy SCGE requirements and the Michigan Transfer Agreement (MTA) requirements.</p> <p>* = Only these courses or combination of courses may be used to satisfy the final requirement for MTA English Communications.</p> <p><sup>L</sup> = Lab Science</p> <p>+ = Students may not use the same History course to satisfy both the humanities and social sciences or COMA 103<sub>M</sub><sup>+</sup> to satisfy both humanities and English communications. Only certain Geography courses can be used for a natural science or social science course.</p> <p><i>Italicized text</i> = Applied Liberal Arts courses that do not qualify to meet SCGE requirements or MTA requirements (Courses may or may not transfer to another institution.)</p> <p><b>BOLD</b> = Occupational Courses have a direct career relationship, and focus on developing necessary knowledge and skills to enter the work force within the chosen field of study. (Courses may or may not transfer to another institution. No SC occupational courses may be used toward SC General Education or to meet the requirements for MTA.)</p> <p>Liberal Arts courses will typically transfer to another institution. They provide general knowledge and theory in the arts, language and communication, humanities, natural sciences, math and social sciences.</p>