

**INDUSTRIAL/MANUFACTURING ENGINEERING (60 Credits)****Guided Pathway: Associate of Arts****Concentration: Industrial/Manufacturing Engineering (FULL TIME).**For more information, visit [www.fgc.edu](http://www.fgc.edu) and your academic advisor.

Meta-major: Industry/Manufacturing and Construction

University Transfer: **FAMU, FSU, UCF, USF**

The *Associate of Arts* degree is a collegiate degree program consisting of lower-division courses intended for transfer to baccalaureate programs at the universities listed above<sup>ii</sup>. This plan is for those who are interested in earning a baccalaureate degree in *Industrial/Manufacturing Engineering*.

This is the sequence of courses for students interested in majoring in *Industrial/Manufacturing Engineering* at one of the universities listed above. It does not represent a contract, nor does it guarantee course availability or entry into your university of choice. This pathway presents classes needed for your baccalaureate degree in *Industrial & Materials Engineering*. Courses that complete the degree are listed below. As always, visit your academic advisor each semester to help you keep on track for graduation.

**\*Note: All AA degrees must satisfy the Foreign Language requirement for graduation. Please see catalog\***

**FULL-TIME  
PATHWAY****SEMESTER BY SEMESTER MAP FOR FULL-TIME STUDENTS**

SEMESTER 1	ACTION ITEMS
ENC 1101 – Freshman Composition I <sup>iv</sup> ( <i>Communication core</i> )	<ul style="list-style-type: none"> <li>Meet with your advisor to confirm academic and career goals by the end of the semester.</li> <li><b>REQUIRED:</b> Complete the <i>Computer Competency course</i> within Canvas.</li> <li>Signup for and pass the Florida Civic Literacy Exam.</li> <li>Consult your advisor to make sure you have met <i>the Foreign Language requirement</i>.</li> <li>At the end of the semester, begin research on college and universities where you want to seek to transfer. Meet with a career advisor/coach to research your career options with a degree in <i>Industrial/Manufacturing Engineering</i>.</li> <li>Remember to start collecting artifacts from your courses for your Academic &amp; Career Portfolio in SLS 2370</li> <li>Begin applying for Financial Aid and Scholarships               <ul style="list-style-type: none"> <li>You can start the FAFSA in October for the next academic year. (<i>i.e., in October 2022, you can complete the FAFSA for if you plan to register for classes at a college or university Fall 2023</i>)</li> </ul> </li> </ul>
<b>Choose one:</b> AMH 2020 – US History from 1865 <b>OR</b> POS 1041 – American Government <sup>iv</sup> ( <i>Social Science &amp; civic literacy</i> )	
MAC 1105 – College Algebra ( <i>Mathematics core</i> )	
CHM 2045/L – General Chemistry I/Lab ( <i>Physical Science</i> ) (4 cr)	
<b>TOTAL SEMESTER CREDIT HOURS: 13</b>	
SEMESTER 2	ACTION ITEMS
<b>Choose one:</b> ENC 1102 – Freshman Composition II <b>OR</b> CRW 2001 – Creative Writing <b>OR</b> ENC 1141 – Writing about Literature <sup>iv</sup> ( <i>Communication</i> )	<ul style="list-style-type: none"> <li>Meet with your advisor to confirm or update your academic/career pathway and program of study.</li> <li>Ask about transfer advising to discuss options to pursue the bachelor's degree.</li> <li>Continue collecting artifacts from courses for your Academic &amp; Career Portfolio in SLS 2370</li> </ul>
MAC 1140 – Precalculus <sup>iv</sup> ( <i>Mathematics core</i> )	
MAC 1114 - Trigonometry <sup>iv</sup> ( <i>Elective Prerequisite</i> )	
<b>Choose one:</b> MUL 1010 – Music Appreciation <b>OR</b> THE 2000 – Theatre Appreciation <b>OR</b> ARH 1000 – Art Appreciation <b>OR</b> HUM 2020 – Introduction to Humanities <sup>iv</sup> ( <i>Humanities core</i> )	
<b>Choose one:</b> BSC 1005 – Biological Principles for Non-Majors <b>OR</b> Any general education BOT or BSC course ( <i>Biological Science Core</i> ) (3-4 cr)	
<b>TOTAL SEMESTER CREDIT HOURS: 15-16</b>	

SEMESTER 3	ACTION ITEMS
<p><b>MAC 2311</b> – Calculus I <sup>iv</sup> (<i>Elective Prerequisite</i>) (4 cr)</p>	<ul style="list-style-type: none"> <li>• Meet with your advisor to confirm or update your academic/career pathway and program of study.</li> <li>• Ask about transfer advising to discuss options to pursue the bachelor's degree.</li> <li>• Begin applying for Financial Aid and Scholarships               <ul style="list-style-type: none"> <li>○ You can start the FAFSA in October for the next academic year. (<i>i.e., in October 2023, you can complete the FAFSA for if you plan to register for classes at a college or university Fall 2024</i>)</li> </ul> </li> <li>• Check with your advisor for important deadlines and dates</li> <li>• Continue collecting artifacts from courses for your Academic &amp; Career Portfolio in SLS 2370</li> </ul>
<p><b>Choose one:</b> <b>PSY 2012</b> – General Psychology <b>OR</b>  <b>SYG 1000</b> – Introduction to Sociology <b>OR</b>  <b>SYG 2300</b> – Introduction to Social Psychology <b>OR</b>  <b>Any DEP or ECO course</b> (<i>Social Science</i>)</p>	
<p><b>Choose one:</b> <b>SPC 2608</b> – Public Speaking <b>OR</b>  <b>SPC 1017</b> – Oral Communications <b>OR</b>  <b>SPC 1061</b> – Introduction to Academic and Professional Speaking<sup>iv</sup> (<i>Communications</i>)</p>	
<b>TOTAL SEMESTER CREDIT HOURS: 10</b>	
SEMESTER 4	ACTION ITEMS
<p><b>SLS 2370</b> – Personal Academic &amp; Career Engagement <sup>iv</sup> (<i>3rd Soc Sci</i>)</p>	<ul style="list-style-type: none"> <li>• Begin applying to your top choice universities.</li> <li>• Begin applying for Financial Aid and Scholarships               <ul style="list-style-type: none"> <li>○ You can start the FAFSA in October for the next academic year. (<i>i.e., in October 2023, you can complete the FAFSA for if you plan to register for classes at a college or university Fall 2024</i>)</li> </ul> </li> <li>• Check with your advisor for important deadlines and dates</li> </ul>
<p><b>Choose one:</b> <b>LIT 2000</b> – Introduction to Literature <b>OR</b>  <b>Any general education AML, ENL, LIT, PHI or REL courses</b> (<i>Humanities</i>)<sup>iv</sup></p>	
<p><b>PHY 2048</b> – General Physics with Calculus I (<i>Elective Prerequisite</i>) (5 cr)</p>	
<p><b>MAC 2312</b> – Calculus II <sup>iv</sup> (<i>Elective Prerequisite</i>) (4 cr)</p>	
<b>TOTAL SEMESTER CREDIT HOURS: 15</b>	
SEMESTER 5	ACTION ITEMS
<p><b>MAC 2313</b> – Calculus III <sup>iv v</sup> (<i>Elective Prerequisite</i>) (4 cr)</p>	<ul style="list-style-type: none"> <li>• After reviewing your final program of study, apply for Graduation.               <ul style="list-style-type: none"> <li>○ Meet with your advisor to apply for the degree.</li> <li>○ Sign up for commencement.</li> </ul> </li> <li>• Request final transcripts to be sent to the college or university to where you will transfer.</li> <li>• Congratulations, graduate!</li> </ul>
<p><b>MAP 2302</b> – Elementary Differential Equations <sup>iv v</sup> (<i>Elective Prerequisite</i>)</p>	
<p><b>PHY 2049</b> – General Physics with Calculus II (<i>Elective Prerequisite</i>) (5 cr)</p>	
<b>TOTAL SEMESTER CREDIT HOURS: 12</b>	
<b>AAIM DEGREE MINIMUM: 60 SEMESTER CREDIT HOURS PATHWAY TOTAL: 65-66 CREDIT HOURS</b>	

<sup>i</sup> Degree plans may change in later catalogs. You may use this pathway if you entered the college on or before this date.

<sup>ii</sup> Students must earn at least 25% of the credit hours (15 hours) required for graduation through instruction by FGC to award the degree.

<sup>iii</sup> This is not an official degree plan. For official degree requirements, [click here](#).

<sup>iv</sup> You must earn a grade of "C" or better in all Gordon Rule classes.

<sup>v</sup> This course is only offered in the spring term.

**INDUSTRIAL/MANUFACTURING ENGINEERING (60 Credits)****Guided Pathway: Associate of Arts in Industrial/Manufacturing Engineering (PART TIME).**For more information, visit [www.fgc.edu](http://www.fgc.edu) and your academic advisor.

Meta-major: Industry/Manufacturing and Construction

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PATHWAY****SEMESTER BY SEMESTER MAP FOR PART-TIME STUDENTS**

<b>SEMESTER 1</b>	<b>ACTION ITEMS</b>
ENC 1101 – Freshman Composition I <sup>iv</sup> ( <i>Communication core</i> )	<ul style="list-style-type: none"> <li>Meet with your advisor to confirm academic and career goals by the end of the semester.</li> <li><b>REQUIRED:</b> Complete the <i>Computer Competency course</i> within Canvas.</li> <li>Consult your advisor to make sure you have met <i>the Foreign Language requirement</i>.</li> <li>Remember to start collecting artifacts from your courses for your Academic &amp; Career Portfolio in SLS 2370</li> <li>Begin applying for Financial Aid and Scholarships               <ul style="list-style-type: none"> <li>You can start the FAFSA in October for the next academic year. (<i>i.e.</i>, in October 2023, you can complete the FAFSA for if you plan to register for classes at a college or university Fall 2024)</li> </ul> </li> </ul>
MAC 1105 – College Algebra <sup>iv</sup> ( <i>Mathematics core</i> )	
<b>TOTAL SEMESTER CREDIT HOURS: 6</b>	
<b>SEMESTER 2</b>	<b>ACTION ITEMS</b>
<b>Choose one:</b> ENC 1102 – Freshman Composition II <b>OR</b> CRW 2001 – Creative Writing <b>OR</b> ENC 1141 – Writing about Literature <sup>iv</sup> ( <i>Communication</i> )	<ul style="list-style-type: none"> <li>At the end of the semester, begin research on college and universities where you want to seek to transfer. Meet with a career advisor/coach to research your career options with a degree in <i>Industrial/Manufacturing Engineering</i>.</li> <li>Continue collecting artifacts from courses for your Academic &amp; Career Portfolio in SLS 2370</li> </ul>
MAC 1140 – Precalculus <sup>iv</sup> ( <i>Mathematics core</i> )	
<b>Choose one:</b> BSC 1005 – Biological Principles for Non-Majors <b>OR</b> <b>Any general education BOT or BSC course</b> ( <i>Biological Science Core</i> ) (3-4 cr)	
<b>TOTAL SEMESTER CREDIT HOURS: 9-10</b>	
<b>SEMESTER 3</b>	<b>ACTION ITEMS</b>
MAC 1114 - Trigonometry <sup>iv</sup> ( <i>Mathematics core</i> )	<ul style="list-style-type: none"> <li>Meet with your advisor to confirm or update your academic/career pathway and program of study.</li> <li>Signup for and pass the Florida Civic Literacy Exam.</li> <li>Continue collecting artifacts from courses for your Academic &amp; Career Portfolio in SLS 2370</li> <li>Begin applying for Financial Aid and Scholarships               <ul style="list-style-type: none"> <li>You can start the FAFSA in October for the next academic year. (<i>i.e.</i>, in October 2023, you can complete the FAFSA for if you plan to register for classes at a college or university Fall 2024)</li> </ul> </li> </ul>
<b>Choose one:</b> AMH 2020 – US History from 1865 <b>OR</b> POS 1041 – American Government <sup>iv</sup> ( <i>Social Science &amp; civic literacy</i> )	
<b>Choose one:</b> MUL 1010 – Music Appreciation <b>OR</b> THE 2000 – Theatre Appreciation <b>OR</b> ARH 1000 – Art Appreciation <b>OR</b> HUM 2020 – Introduction to Humanities <sup>iv</sup> ( <i>Humanities core</i> )	
<b>TOTAL SEMESTER CREDIT HOURS: 9</b>	
<b>SEMESTER 4</b>	<b>ACTION ITEMS</b>
MAC 2311 – Calculus I <sup>iv</sup> ( <i>Elective Prerequisite</i> ) (4 cr)	<ul style="list-style-type: none"> <li>Meet with your advisor and ask about transfer advising to discuss options to pursue the bachelor's degree.</li> <li>Continue collecting artifacts from courses for your Academic &amp; Career Portfolio in SLS 2370</li> </ul>
CHM 2045/L – General Chemistry I/Lab ( <i>Physical Science</i> ) (4 cr)	
<b>TOTAL SEMESTER CREDIT HOURS: 8</b>	

SEMESTER 5	ACTION ITEMS
<p><b>MAC 2312</b> – Calculus II <sup>iv</sup> (<i>Elective Prerequisite</i>) (4 cr)</p>	<ul style="list-style-type: none"> <li>• Meet with your advisor to confirm academic and career goals by the end of the semester.</li> <li>• Meet with a career advisor/coach to research your career options.</li> <li>• Continue collecting artifacts from your courses for your Academic &amp; Career Portfolio in SLS 2370.</li> <li>• Begin applying for Financial Aid and Scholarships               <ul style="list-style-type: none"> <li>○ You can start the FAFSA in October for the next academic year. (<i>i.e., in October 2023, you can complete the FAFSA for if you plan to register for classes at a college or university Fall 2024</i>)</li> </ul> </li> </ul>
<p><b>Choose one:</b> <b>SPC 2608</b> – Public Speaking <b>OR</b>  <b>SPC 1017</b> – Oral Communications <b>OR</b>  <b>SPC 1061</b> – Introduction to Academic and Professional Speaking<sup>iv</sup>  <i>(Communications)</i></p>	
<b>TOTAL SEMESTER CREDIT HOURS: 7</b>	
SEMESTER 6	ACTION ITEMS
<p><b>PHY 2048C</b> – General Physics with Calculus I (<i>Elective Prerequisite</i>) (5 cr)</p>	<ul style="list-style-type: none"> <li>• Meet with your advisor to confirm or update your academic/career pathway and program of study.</li> </ul>
<p><b>SLS 2370</b> – Personal Academic &amp; Career Engagement <sup>iv</sup> (3rd Soc Sci)</p>	
<b>TOTAL SEMESTER CREDIT HOURS: 8</b>	
SEMESTER 7	ACTION ITEMS
<p><b>Choose one:</b> <b>LIT 2000</b> – Introduction to Literature <b>OR</b>  <b>Any general education AML, ENL, LIT, PHI or REL</b> courses  <i>(Humanities)</i> <sup>iv</sup></p>	<ul style="list-style-type: none"> <li>• Begin applying to your top choice universities.</li> <li>• Begin applying for Financial Aid and Scholarships               <ul style="list-style-type: none"> <li>○ You can start the FAFSA in October for the next academic year. (<i>i.e., in October 2023, you can complete the FAFSA for if you plan to register for classes at a college or university Fall 2024</i>)</li> </ul> </li> <li>• Check with your advisor for important deadlines and dates</li> </ul>
<p><b>PHY 2049C</b> – General Physics with Calculus II (<i>Elective Prerequisite</i>) (5 cr)</p>	
<b>TOTAL SEMESTER CREDIT HOURS: 8</b>	
SEMESTER 8	ACTION ITEMS
<p><b>Choose one:</b> <b>PSY 2012</b> – General Psychology <b>OR</b>  <b>SYG 1000</b> – Introduction to Sociology <b>OR</b>  <b>SYG 2300</b> – Introduction to Social Psychology <b>OR</b>  <b>Any DEP or ECO course</b> (<i>Social Science</i>)</p>	<ul style="list-style-type: none"> <li>• After reviewing your final program of study, apply for Graduation.               <ul style="list-style-type: none"> <li>○ Meet with your advisor to apply for your degree.</li> <li>○ Sign up for commencement.</li> </ul> </li> <li>• Request final transcripts to be sent to the college or university to where you will transfer.</li> <li>• Congratulations, graduate!</li> </ul>
<p><b>MAC 2313</b> – Calculus III <sup>iv v</sup> (<i>Elective Prerequisite</i>) (4 cr)</p>	
<p><b>MAP 2302</b> – Elementary Differential Equations <sup>iv v</sup> (<i>Elective Prerequisite</i>)</p>	
<b>TOTAL SEMESTER CREDIT HOURS: 10</b>	
<b>AAIM DEGREE MINIMUM: 60 SEMESTER CREDIT HOURS PATHWAY TOTAL: 65-66 CREDIT HOURS</b>	

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