

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

SEMESTER 1	ACTION ITEMS
ENC 1101 – Freshman Composition I <sup>iv</sup> (Communication core)	<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 <b>Computer Competency</b> course within Canvas.</li><li>Signup for and pass the Florida Civic Literacy Exam.</li><li>Consult your advisor to make sure you have met <b>the Foreign Language requirement</b>.</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 <b>Industrial/Manufacturing Engineering</b>.</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.e., in October 2024, you can complete the FAFSA for if you plan to register for classes at a college or university Fall 2025)</li></ul></li></ul>
<b>Choose one:</b> AMH 2010 – US History to 1877 <b>OR</b> AMH 2020 – US History from 1877 <b>OR</b> POS 1041 – American Government <sup>iv</sup> (Social Science & civic literacy)	
MAC 1105 – College Algebra (Mathematics core)	
CHM 2045/L – General Chemistry I/Lab (Physical Science Core) (4 cr)	
TOTAL SEMESTER CREDIT HOURS: 13	
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> (Communication)	<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> (Mathematics core)	
MAC 1114 - Trigonometry <sup>iv</sup> (Elective Prerequisite)	
<b>Choose one:</b> ARH 1000 – Art Appreciation <b>OR</b> HUM 2020 – Introduction to Humanities <b>OR</b> MUL 2010 – Music Appreciation <b>OR</b> THE 2000 – Theatre Appreciation <sup>iv</sup> (Humanities core)	
<b>Choose one:</b> BSC 1005 – Biological Principles for Non-Majors <b>OR</b> Any general education BOT or BSC course (Biological Science) (3-4 cr)	
TOTAL SEMESTER CREDIT HOURS: 15-16	

SEMESTER 3	ACTION ITEMS
MAC 2311 – Calculus I <sup>iv</sup> (Elective Prerequisite) (4 cr)	<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.e., in October 2024, you can complete the FAFSA for if you plan to register for classes at a college or university Fall 2025)</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>
Choose one: PSY 2012 – General Psychology OR SYG 1000 – Introduction to Sociology OR SYG 2300 – Introduction to Social Psychology OR Any DEP or ECO course (Social Science)	
Choose one: SPC 2608 – Public Speaking OR SPC 1017 – Oral Communications OR SPC 1061 – Introduction to Academic and Professional Speaking <sup>iv</sup> (Communications))	
TOTAL SEMESTER CREDIT HOURS: 10	
SEMESTER 4	ACTION ITEMS
SLS 2370 – Personal Academic & Career Engagement <sup>iv</sup> (3rd Soc Sci )	<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.e., in October 2024, you can complete the FAFSA for if you plan to register for classes at a college or university Fall 2025)</li></ul></li><li>Check with your advisor for important deadlines and dates</li></ul>
Choose one: LIT 2000 – Introduction to Literature OR Any general education AML, ENL, LIT, PHI or REL courses (Humanities) <sup>iv</sup>	
PHY 2048 – General Physics with Calculus I (Elective Prerequisite) (5 cr)	
MAC 2312 – Calculus II <sup>iv</sup> (Elective Prerequisite) (4 cr)	
TOTAL SEMESTER CREDIT HOURS: 15	
SEMESTER 5	ACTION ITEMS
MAC 2313 – Calculus III <sup>iv v</sup> (Elective Prerequisite) (4 cr)	<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>
MAP 2302 – Elementary Differential Equations <sup>iv v</sup> (Elective Prerequisite)	
PHY 2049 – General Physics with Calculus II (Elective Prerequisite) (5 cr)	
TOTAL SEMESTER CREDIT HOURS: 12	
AAIE DEGREE MINIMUM: 60 SEMESTER CREDIT HOURS PATHWAY TOTAL: 65-66 CREDIT HOURS	

<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

University Transfer: FAMU, FSU, UCF, USF

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

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

SEMESTER 1		ACTION ITEMS	
ENC 1101 – Freshman Composition I <sup>iv</sup> (Communication core)		<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</i> course 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.e., in October 2024, you can complete the FAFSA for if you plan to register for classes at a college or university Fall 2025)</li></ul></li></ul>	
MAC 1105 – College Algebra <sup>iv</sup> (Mathematics core)			
TOTAL SEMESTER CREDIT HOURS: 6			
SEMESTER 2		ACTION ITEMS	
Choose one: ENC 1102 – Freshman Composition II <b>OR</b> CRW 2001 – Creative Writing <b>OR</b> ENC 1141 – Writing about Literature <sup>iv</sup> (Communication)		<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> (Mathematics core)			
Choose one: BSC 1005 – Biological Principles for Non-Majors <b>OR</b> Any general education BOT or BSC course (Biological Science) (3-4 cr)			
TOTAL SEMESTER CREDIT HOURS: 9-10			
SEMESTER 3		ACTION ITEMS	
MAC 1114 - Trigonometry <sup>iv</sup> (Mathematics core)		<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.e., in October 2024, you can complete the FAFSA for if you plan to register for classes at a college or university Fall 2025)</li></ul></li></ul>	
Choose one: AMH 2010 – US History to 1877 <b>OR</b> AMH 2020 – US History from 1877 <b>OR</b> POS 1041 – American Government <sup>iv</sup> (Social Science & civic literacy)			
Choose one: ARH 1000 – Art Appreciation <b>OR</b> HUM 2020 – Introduction to Humanities <b>OR</b> MUL 2010 – Music Appreciation <b>OR</b> THE 2000 – Theatre Appreciation <sup>iv</sup> (Humanities core)			
TOTAL SEMESTER CREDIT HOURS: 9			
SEMESTER 4		ACTION ITEMS	
MAC 2311 – Calculus I <sup>iv</sup> (Elective Prerequisite) (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 (Physical Science Core) (4 cr)			
TOTAL SEMESTER CREDIT HOURS: 8			

SEMESTER 5	ACTION ITEMS
MAC 2312 – Calculus II <sup>iv</sup> (Elective Prerequisite) (4 cr)	<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.e., in October 2024, you can complete the FAFSA for if you plan to register for classes at a college or university Fall 2025)</li></ul></li></ul>
Choose one: SPC 2608 – Public Speaking OR SPC 1017 – Oral Communications OR SPC 1061 – Introduction to Academic and Professional Speaking <sup>iv</sup> (Communications)	
TOTAL SEMESTER CREDIT HOURS: 7	
SEMESTER 6	ACTION ITEMS
PHY 2048C – General Physics with Calculus I (Elective Prerequisite) (5 cr)	<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>
SLS 2370 – Personal Academic & Career Engagement <sup>iv</sup> (3rd Soc Sci)	
TOTAL SEMESTER CREDIT HOURS: 8	
SEMESTER 7	ACTION ITEMS
Choose one: LIT 2000 – Introduction to Literature OR Any general education AML, ENL, LIT, PHI or REL courses (Humanities) <sup>iv</sup>	<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.e., in October 2024, you can complete the FAFSA for if you plan to register for classes at a college or university Fall 2025)</li></ul></li><li>Check with your advisor for important deadlines and dates</li></ul>
PHY 2049C – General Physics with Calculus II (Elective Prerequisite) (5 cr)	
TOTAL SEMESTER CREDIT HOURS: 8	
SEMESTER 8	ACTION ITEMS
Choose one: PSY 2012 – General Psychology OR SYG 1000 – Introduction to Sociology OR SYG 2300 – Introduction to Social Psychology OR Any DEP or ECO course (Social Science)	<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>
MAC 2313 – Calculus III <sup>iv v</sup> (Elective Prerequisite) (4 cr)	
MAP 2302 – Elementary Differential Equations <sup>iv v</sup> (Elective Prerequisite)	
TOTAL SEMESTER CREDIT HOURS: 10	
AAIE DEGREE MINIMUM: 60 SEMESTER CREDIT HOURS PATHWAY TOTAL: 65-66 CREDIT HOURS	

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<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.

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

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