INDUSTRIAL BIOTECHNOLOGY, B.A.S. (121 Credits)

Meta-major: STEM

The Industrial Technology B.A.S. articulation agreement between Florida Gateway College (FGC) and Santa Fe College (SF) provides a pathway for students to earn their Associate of Arts (A.A.) degree with FGC and transfer to earn their baccalaureate degree in Industrial Biotechnology with SF.

For more information about the A.A. program, visit www.fgc.edu and your academic advisor.

For more information regarding the baccalaureate program, visit the Industrial Biotechnology SF page.

This pathway presents classes needed to earn your AA with FGC and your baccalaureate degree in Industrial Biotechnology with SF. It does not represent a contract, nor does it guarantee course availability or entry into the program. As always, visit your academic advisor each semester to help you keep on track for graduation.

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

### Articulation Agreement

#### SEMESTER BY SEMESTER MAP FOR FULL-TIME STUDENTS

<table>
<thead>
<tr>
<th>LOWER DIVISION SEMESTER 1 AT FGC</th>
<th>ACTION ITEMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENC 1101 – Freshman Composition I(^\text{iv}) (Communication core)</td>
<td>• Meet with your advisor to confirm academic and career goals by the end of the semester.</td>
</tr>
<tr>
<td><strong>Choose one:</strong> AMH 2020 – US History from 1865 <em>OR</em> POS 1041 – American Government (^\text{iv}) (Social Science &amp; civic literacy)</td>
<td>• REQUIRED: Complete the <em>Computer Competency course</em> within Canvas.</td>
</tr>
<tr>
<td>MAC 1105 – College Algebra (^\text{vii}) (Mathematics core)</td>
<td>• Signup for and pass the Florida Civic Literacy Exam.</td>
</tr>
<tr>
<td>BSC 2010C – General Biology I with Lab (Biological Science Core) (4\text{ cr})</td>
<td>• Consult your advisor to make sure you have met the <em>Foreign Language requirement</em>.</td>
</tr>
<tr>
<td>CHM 2045/L – General Chemistry I/Lab (Physical Science) (4\text{ cr})</td>
<td>• 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 Biotechnology.</td>
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**TOTAL SEMESTER CREDIT HOURS: 17**

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<thead>
<tr>
<th>LOWER DIVISION SEMESTER 2 AT FGC</th>
<th>ACTION ITEMS</th>
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<tbody>
<tr>
<td><strong>Choose one:</strong> ENC 1102 – Freshman Composition II <em>OR</em> CRW 2001 – Creative Writing <em>OR</em> ENC 1141 – Writing about Literature (^\text{iv}) (Communication)</td>
<td>• Meet with your advisor to confirm or update your academic/career pathway and program of study.</td>
</tr>
<tr>
<td>MAC 2233 – Survey of Calculus (^\text{iv}) (Mathematics Core) (4\text{ cr})</td>
<td>• Ask about transfer advising to discuss options to pursue the bachelor’s degree.</td>
</tr>
<tr>
<td>BSC 2011C – General Biology II with Lab (Elective Prerequisite)</td>
<td>• Continue collecting artifacts from courses for your Academic &amp; Career Portfolio in SLS 2370</td>
</tr>
<tr>
<td>CHM 2046/L – General Chemistry II/Lab (^\text{v}) (Elective Prerequisite) (4\text{ cr})</td>
<td></td>
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**TOTAL SEMESTER CREDIT HOURS: 15**

<table>
<thead>
<tr>
<th>LOWER DIVISION SEMESTER 3 AT FGC</th>
<th>ACTION ITEMS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Choose one:</strong> LIT 2000 – Introduction to Literature <em>OR</em> Any general education AML, ENL, LIT, PHI or REL courses (Humanities) (^\text{iv})</td>
<td>• Begin applying to your top choice universities.</td>
</tr>
<tr>
<td>CHM 2210/L – Organic Chemistry I/Lab (^\text{v}) (Elective Prerequisite) (4\text{ cr})</td>
<td>• You can start the FAFSA in October for the next academic year. (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)</td>
</tr>
<tr>
<td>STA 2023 – Elementary Statistics (^\text{iv}) (Elective Prerequisite)</td>
<td>• Check with your advisor for important deadlines and dates.</td>
</tr>
<tr>
<td>PHY 2053C – General Physics I (Elective Prerequisite) (4\text{ cr})</td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL SEMESTER CREDIT HOURS: 17**
### LOWER DIVISION SEMESTER 4 AT FGC

**Choose one:** SPC 2608 – Public Speaking OR SPC 1017 – Oral Communications OR SPC 1061 – Introduction to Academic and Professional Speaking<sup>iv</sup> (Communications)

**Choose one:** MUL 1010 – Music Appreciation OR THE 2000 – Theatre Appreciation OR ARH 1000 – Art Appreciation OR HUM 2020 – Introduction to Humanities<sup>iv</sup> (Humanities core)

**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)<sup>iv</sup>

CHM 2211/L – Organic Chemistry II/Lab<sup>vi</sup> (Elective Prerequisite) (4 cr)

PHY 2054C – General Physics II (Elective Prerequisite) (4 cr)

**TOTAL SEMESTER CREDIT HOURS:** 17

**A.A. PATHWAY TOTAL:** 66<sup>vii</sup> CREDIT HOURS

### UPPER DIVISION SEMESTER 1 AT SF

BCH 3023 – Biochemistry

PCB 3703C – Human Physiology

PCB 3063 – Genetics

BSC 2426C – Biotechnology Methods I

**TOTAL SEMESTER CREDIT HOURS:** 12

### UPPER DIVISION SEMESTER 2 AT SF

PCB 3134/L – Molecular Biology with Lab (4 cr)

PCB 4233 – Immunology

BSC 2423C – Protein Methods

BOT 4734C – Plant Biotechnology

**TOTAL SEMESTER CREDIT HOURS:** 13

### UPPER DIVISION SEMESTER 3 AT SF

BSC 4422C – Applied Biotechnology

MCB 4503 – Virology

HSC 3503 – Toxicology

**TOTAL SEMESTER CREDIT HOURS:** 9

### UPPER DIVISION SEMESTER 4 AT SF

MCB 4653C – Applied Microbiology

PCB 4028 – Molecular Pharmacology

CHM 4136C – Bioanalytical Chemistry

BSC 4463 – Seminar (1 cr)

**TOTAL SEMESTER CREDIT HOURS:** 10

### UPPER DIVISION SEMESTER 5 AT SF

ETI 4430 – Computer Aided Manufacturing

ETI 3173C – Applied Manufacturing

BSC 2146C – Cell Culture and Applications

BSC 4XXX – Research and/or Internship (2 cr)

**TOTAL SEMESTER CREDIT HOURS:** 11

**TOTAL AT SF:** 55 CREDIT HOURS

**B.A.S. PATHWAY TOTAL:** 121 CREDIT HOURS

<sup>1</sup> Degree plans may change in later catalogs. You may use this pathway if you entered the college on or before this date.

<sup>2</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>3</sup> This is not an official degree plan. For official degree requirements, click here.

<sup>4</sup> You must earn a grade of “C” or better in all Gordon Rule classes.

<sup>5</sup> This course is only offered in the fall term.

<sup>6</sup> This course is only offered in the spring term.

<sup>7</sup> If student enrolls ready for MAC 1114/1140, then MAC 1105 is not necessary, bringing the A.A. Pathway credits to 63.