

About the Program

The Technical Certificate (T.C.) in Biotechnology Specialist (Manufacturing) provides entry-level academic and technical skill proficiency for the biotechnology manufacturing area. For more information about this program, visit fscj.edu/6198.

Program Requirements

This program requires a **minimum of 19 credit hours**. Total program hours may vary based on the student's individual academic plan. This program is **not eligible** for financial aid.

This program articulates directly into the Biotechnology Laboratory Technology (2199) (A.S.) degree. The Biotechnology Specialist (Manufacturing) technical certificate and the Biotechnology Laboratory Technology A.S. degree include **Algebra Through Calculus math pathways**. This pathway is intended for students whose academic program requires a foundation of algebra, followed by a sequence of courses that may lead to calculus. To learn more about the Biotechnology Laboratory Technology degree, visit fscj.edu/academics/programs/as/2199.

Placement Testing

College placement testing assesses incoming students' skill levels in English, mathematics, and reading. Students are exempt from placement testing if they meet any of the following conditions:

- Entered the ninth grade in a Florida public school in 2003 or after and graduated from a Florida Public High school with a standard high school diploma.
- Are currently serving as an active-duty member of any branch of the U.S. Armed Services.
- Have received an A.A., A.S., A.A.S. or higher from an accredited institution.
- Have completed college-level courses in English and mathematics.
- Have completed upper-level developmental courses in English/Reading and Mathematics.
- Are a Transient student (Florida Shines or transient letter from home institution is required).

All other students in this program must take a placement test. Students who place into **developmental education courses** are required to complete designated developmental education courses with a grade of C or higher regardless of program of study and are also required to take one of two student success strategies courses. For additional information, visit catalog.fscj.edu/academics/developmental-education-programs or speak with an advisor.

Technical Certificate Graduation Requirements

- ☐ Fulfill all academic requirements for the chosen program of study as outlined in the Florida State College at Jacksonville catalog and curriculum.
- ☐ Earn minimum prescribed semester hours for the chosen program of study with a cumulative grade point average of 2.0 (C) on a 4.0 scale on all courses that apply to the chosen program of study.
- ☐ Complete a minimum of 25 percent of the total hours required for the program in residence at Florida State College at Jacksonville. Credit by examination and credit for prior learning do not count toward this residency requirement.
- ☐ Fulfill all obligations, financial or otherwise, to the College before graduating.

Catalog Year

This document is prepared for students with a **2025-26 College Catalog year** who have not tested into developmental education courses. **Students who enter under the 2025-26 catalog** will be assigned to the degree or certificate requirements in effect during the 2025-26 academic year. The student's assigned catalog year will remain in effect as long as the student maintains continuous enrollment. Changes to requirements as mandated by law or by rule of the District Board of Trustees may supersede this provision.

To maintain continuous enrollment, a student must have registration for, and successful completion of, at least one course within a three-term period. After three consecutive terms of no enrollment, the student will be discontinued from the current program of study and will need to apply to FSCJ to reenter under the same program of study. Upon readmission, the student will be assigned to the current catalog of record in the chosen program.

Curriculum

All courses in this program must be completed with a grade of C or higher.

Sample Roadmap

This sample roadmap shows one possible pathway to program completion and may not be appropriate for all students. **Terms Offered** are subject to change. Please verify course availability at fscj.edu/schedules. Prior to enrolling in classes, please meet with an advisor for specific guidance about your individual academic plan.

Term 1: Summer, Fall or Spring

- | | |
|--|---------------------|
| <input type="checkbox"/> Select from any MAC-prefix course, Credit Hours: 3-5. Terms Offered: Fall, Spring, Summer. | Grade Earned: _____ |
| <input type="checkbox"/> BSC 1421C - Introduction to Biotechnology Methods, Credit Hours: 4. Terms Offered: Fall, Spring, Summer. | Grade Earned: _____ |
| <input type="checkbox"/> BSC 2010C - Principles of Biology I, Credit Hours: 4. Terms Offered: Fall, Spring, Summer. | Grade Earned: _____ |

Term 2: Fall

- | | |
|--|---------------------|
| <input type="checkbox"/> CHM 1025C - Introduction to General Chemistry, Credit Hours: 4. Terms Offered: Fall, Spring, Summer. | Grade Earned: _____ |
| <input type="checkbox"/> BSC 2420C - Biotechnology Methods I, Credit Hours: 4. Terms Offered: Fall. | Grade Earned: _____ |

Course Requirements

Prerequisites, corequisites, and conditions for any course are subject to change. Students must meet the prerequisite and corequisite requirements of any course at the time the student attempts to register for that course. If you have questions about the prerequisites, corequisites, or conditions for a course, please contact any academic advisor.

Professional Courses

Complete one MAC-prefix course and all other courses.

BSC 2010C - Principles of Biology I, Credit Hours: 4. *State Core course.*

Prerequisite(s): None. **Corequisite(s):** None. **Conditions:** This course fulfills the General Education Requirements and the laboratory requirement needed by many students who plan to transfer to a four-year institution. **Terms Offered:** Fall, Spring, Summer.

BSC 1421C - Introduction to Biotechnology Methods, Credit Hours: 4.

Prerequisite(s): High school biology. **Corequisite(s):** None. **Conditions:** None. **Terms Offered:** Fall, Spring, Summer.

BSC 2420C - Biotechnology Methods I, Credit Hours: 4. **Prerequisite(s):** MAC 1105 or MAC 1105C, and BSC 1421C. **Corequisite(s):** None. **Conditions:** None.

Terms Offered: Fall.

CHM 1025C - Introduction to General Chemistry, Credit Hours: 4.

Prerequisite(s): None. **Corequisite(s):** MAC 1105 or MAC 1105C or higher-level MAC course or MAP 2302. **Conditions:** This course meets the prerequisite for CHM 2045C. This course may require proctored testing at an approved location. Students may be charged testing fees at off-campus and virtual testing locations. For additional information and resources, please see the College's Online Learning website. **Terms Offered:** Fall, Spring, Summer.

MAC 1105 - College Algebra, Credit Hours: 3. *State Core course.*

Prerequisite(s): MAT 1033 with a grade of C or higher or a satisfactory score on the placement test. **Corequisite(s):** None. **Conditions:** This course fulfills the Gordon Rule computation requirement and must be completed with a grade of C or higher (pursuant to State Board of Education Rule 6A-10.030). Effective Spring 2014, students who entered the ninth grade in a Florida public high school in the 2003-2004 school year, or any year thereafter, and earned a standard Florida high school diploma, or students who are serving as active duty members in any branch of the United States Armed Services, will not be required to take the common placement test (P.E.R.T.) or to enroll in developmental education at any Florida College System institution, including Florida State College at Jacksonville (per Senate Bill 1720, State Board Rule 6A-10.0315). These students shall be considered exempt from common placement testing and developmental education instruction, and may accordingly enroll directly in MAT 1033 or MGF 1130 or MGF1131. For placement in any college-credit math course beyond MAT 1033 or MGF 1130 or MGF1131, exempt students will be required to take the common placement test. This course may require proctored testing at an approved location. Students may be charged testing fees at off-campus and virtual testing locations. For additional information and resources, please see the College's Online Learning website. **Terms Offered:** Fall, Spring, Summer.

MAC 1105C - College Algebra Enhanced, Credit Hours: 5. *State Core course.*

Prerequisite(s): MAT 1033 with a grade of D or higher or MAC 1105 with a grade of D or lower or a satisfactory score on the placement test. **Corequisite(s):** None.

Conditions: This course fulfills the Gordon Rule computation requirement and must be completed with a grade of C or higher (pursuant to State Board of Education Rule 6A-10.030). Effective Spring 2014, students who entered the ninth grade in a Florida public high school in the 2003-2004 school year, or any year thereafter, and earned a standard Florida high school diploma, or students who are serving as active duty members in any branch of the United States Armed Services, will not be required to take the common placement test (P.E.R.T.) or to enroll in developmental education at any Florida College System institution, including Florida State College at Jacksonville (per Senate Bill 1720, State Board Rule 6A-10.0315). These students shall be considered exempt from common placement testing and developmental education instruction, and may accordingly enroll directly in MAT 1033 or MGF 1130 or MGF 1131. For placement in any college-credit math course beyond MAT 1033 or MGF 1130 or MGF 1131, exempt students will be required to take the common placement test. This course may require proctored testing at an approved location. Students may be charged testing fees at off-campus and virtual testing locations. For additional information and resources, please see the College's Online Learning website. **Terms Offered:** Fall, Spring, Summer.

MAC 1114 - College Trigonometry, Credit Hours: 3. **Prerequisite(s):** MAC 1105 or MAC 1105C each with a grade of C or higher. **Corequisite(s):** None. **Conditions:** A strong high-school Algebra background is recommended. This course fulfills the Gordon Rule computation requirement and must be completed with a grade of C or higher (pursuant to State Board of Education Rule 6A-10.030). **Terms Offered:** Fall, Spring, Summer.

MAC 1140 - Precalculus Algebra, Credit Hours: 4. **Prerequisite(s):** MAC 1105 or MAC 1105C each with a grade of C or higher or a satisfactory score on the placement test. **Corequisite(s):** None. **Conditions:** This course fulfills the Gordon Rule computation requirement and must be completed with a grade of C or higher (pursuant to State Board of Education Rule 6A-10.030). **Terms Offered:** Fall, Spring, Summer.

MAC 1147 - Precalculus Algebra and Trigonometry, Credit Hours: 5. **Prerequisite(s):** MAC 1105 or MAC 1105C each with a grade of B or higher or satisfactory score on the placement test. **Corequisite(s):** None. **Conditions:** This course fulfills the Gordon Rule computation requirement and must be completed with a grade of C or higher (pursuant to State Board of Education Rule 6A-10.030). **Terms Offered:** Fall, Spring, Summer.

MAC 2233 - Calculus for Business and Social Sciences, Credit Hours: 3.

Prerequisite(s): MAC 1105 or MAC 1105C or MAC 1140 each with a grade of C or higher or a satisfactory score on the placement test. **Corequisite(s):** None. **Conditions:** Appropriate technology is required. This course does not satisfy degree requirements for students majoring in mathematics or engineering. This course fulfills the Gordon Rule computation requirement and must be completed with a grade of C or higher (pursuant to State Board of Education Rule 6A-10.030). **Terms Offered:** Fall, Spring, Summer.

MAC 2311 - Calculus With Analytic Geometry I, Credit Hours: 4. *State Core course.* **Prerequisite(s):** MAC 1140 and MAC 1114 each with a grade of C or higher or MAC 1147 with a grade of C or higher. **Corequisite(s):** None. **Conditions:** This course fulfills the Gordon Rule computation requirement and must be completed with a grade of C or higher (pursuant to State Board of Education Rule 6A-10.030). **Terms Offered:** Fall, Spring, Summer.

MAC 2312 - Calculus With Analytic Geometry II, Credit Hours: 4. **Prerequisite(s):** MAC 2311 with a grade of C or higher. **Corequisite(s):** None. **Conditions:** This course fulfills the Gordon Rule computation requirement and must be completed with a grade of C or higher (pursuant to State Board of Education Rule 6A-10.030). **Terms Offered:** Fall, Spring, Summer.

MAC 2313 - Calculus With Analytic Geometry III, Credit Hours: 4. **Prerequisite(s):** MAC 2312 with a grade of C or higher. **Corequisite(s):** None. **Conditions:** This course fulfills the Gordon Rule computation requirement and must be completed with a grade of C or higher (pursuant to State Board of Education Rule 6A-10.030). **Terms Offered:** Fall, Spring, Summer.