**Career Cluster:** Science, Technology, Engineering, Math (STEM)  
**Career Cluster Pathway:** Manufacturing  
**CTE Program:** Industrial Biotechnology  
**Eligible Recipient:** Pinellas County Schools

### 16 CORE CURRICULUM CREDITS

<table>
<thead>
<tr>
<th>ENGLISH</th>
<th>MATH</th>
<th>SCIENCE</th>
<th>SOCIAL STUDIES</th>
<th>OTHER REQUIRED COURSES</th>
<th>CAREER AND TECHNICAL EDUCATION COURSES</th>
<th>RECOMMENDED ELECTIVES</th>
</tr>
</thead>
</table>
| 4 credits  
H – Honors  
AP – Advanced Placement | 4 credits  
H – Honors  
AP – Advanced Placement | 3 credits, 2 with lab  
H – Honors  
AP – Advanced Placement | 3 credits  
H – Honors  
AP – Advanced Placement | 16 CORE CURRICULUM CREDITS | 8 ADDITIONAL CREDITS | |

### HIGH SCHOOL

9. English 1 or H  
Algebra 1 or H,  
Geometry or H  
Earth/Space Science or Biology 1 or H  
American Government or H  
Fine Arts Elective  
Biotechnology 1  
Foreign Language

10. English 2 or H  
Geometry or H,  
Algebra 2 or H  
Biology 1 or H; or Chemistry, H or AP  
World History, H or AP  
H.O.P.E  
Biotechnology 2  
Foreign Language

11. English 3 or H  
3rd Math Credit  
3rd Science Credit  
American History, H or AP  
Elective  
Biotechnology 3  
Elective

12. English 4, H, or AP  
4th Math Credit  
4th Science Credit  
Economics or H  
Elective  
Elective  
Elective

Dual enrollment courses may be used to satisfy high school graduation or Bright Futures Gold Seal Vocational Scholars course requirements - see the Articulation Coordinating Committee’s Dual Enrollment Equivalency List and the Bright Futures Comprehensive Course Table.

### POSTSECONDARY

Secondary career and technical education programs may lead to industry recognized certificates, occupational opportunities or postsecondary education options. Based on the Career Cluster of interest and identified career and technical education program, the following postsecondary options are available.

- **TECHNICAL CENTER PROGRAM(S)**
- **COMMUNITY COLLEGE PROGRAM(S)**
- **UNIVERSITY PROGRAM(S)**

  - Biotechnology
  - Pharmacology

### CAREER

- Research Technician
- Medical Researcher
- Scientist
- Biotechnology Engineer
- Pharmaceuticals
- Physician

### CREDIT

- **Secondary to Technical Center (PSAV)**  
  (Minimum # of clock hours awarded)
- **Secondary to College Credit Certificate or Degree**  
  (Minimum # of clock or credit hours awarded)
- **PSAV/PSV to AAS or AS/BS/BAS**  
  (Statewide and other local agreements may be included here)

### Sample Career Specialties (The Targeted Occupations List may be used to identify appropriate careers.)

- Research Technician
- Medical Researcher
- Scientist
- Biotechnology Engineer
- Pharmaceuticals
- Physician

### Articulation and CTE Dual Enrollment Opportunities

### Possible Industry Certifications (Students):

- Secondary: n/a
- Postsecondary: n/a