### Career Cluster: Engineering & Technology Education (STEM)

Tocoi Creek High School, St. Johns County School District

### Industry Certification:
Secondary: MTA Introduction to Programming Using Python (MICRO112), Small UAS Safety (USINS001), RECF Robotics (RECFN002), Autodesk Certified User – AutoCAD (ADESK002), SOLIDWORKS CSWA (SOLID003)

### 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 (ALIGNED WITH STATE COLLEGE &amp; UNIVERSITY SYSTEM PROGRAMS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 credits</td>
<td>4 credits</td>
<td>3 credits, 2 with lab</td>
<td>3 credits</td>
<td>PHYSICAL EDUCATION (1 credit)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 8 ADDITIONAL CREDITS

**ENGLISH**
- 4 credits

**MATH**
- 4 credits

**SCIENCE**
- 3 credits, 2 with lab

**SOCIAL STUDIES**
- 3 credits

**OTHER REQUIRED COURSES**
- PHYSICAL EDUCATION (1 credit)

**CAREER AND TECHNICAL EDUCATION COURSES**
- Foundations of Mechatronic Programming (Robotic Design Essentials 9410120)

**RECOMMENDED ELECTIVES (ALIGNED WITH STATE COLLEGE & UNIVERSITY SYSTEM PROGRAMS)**
- Elective

**HIGH SCHOOL**

<table>
<thead>
<tr>
<th>9th</th>
<th>10th</th>
<th>11th</th>
<th>12th</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 1, English Honors 1</td>
<td>English 2, English Honors 2</td>
<td>English 3, English 3 DE Freshman English 1 ENC 1101, AP Language</td>
<td>English 4, English Honors 4, AP or DE Freshman English 1 (ENC1102), AP Literature</td>
</tr>
<tr>
<td>Environmental Science, Physical Science, Biology 1 Honors</td>
<td>Biology, Biology Honors, Chemistry, Chemistry Honors</td>
<td>Marine Science, Marine Science Honors, Earth Science, Anatomy and Physiology Honors, Chemistry, Chemistry Honors, Physics Honors</td>
<td>AP Biology, AP Chemistry, AP Environmental Science, AP Physics</td>
</tr>
<tr>
<td>HOPE – Health Opportunities through Physical Education</td>
<td>World Language 1</td>
<td>World Language 2</td>
<td>Elective</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Leadership in Artificial Intelligence (AI) (Robotic Applications Capstone 9410140)</td>
</tr>
</tbody>
</table>

**Students are encouraged to use mycareershines.org to explore careers and postsecondary options.**

**Students are also encouraged to participate in dual enrollment courses which may be used to satisfy high school graduation or Bright Futures Gold Seal Vocational Scholars course requirements.**

**One course within the 24 credit program must be an online course. Cumulative GPA of 2.0 on a 4.0 scale for 24 credit program.**

### POSTSECONDARY

<table>
<thead>
<tr>
<th>TECHNICAL COLLEGE PROGRAM(S)</th>
<th>STATE COLLEGE PROGRAM(S)</th>
<th>UNIVERSITY PROGRAM(S)</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>St. Johns River State College, St. Augustine: College Credit Certificates (CCC): Engineering Technology Support Specialist, Mechatronics, Robotics and Simulation Technician</td>
<td>University of North Florida, Jacksonville: College of Computing, Engineering &amp; Construction – Mechanical Engineering (B.S.), MS in Mechanical Engineering</td>
</tr>
<tr>
<td></td>
<td>Associate in Science (A.S.) Degree in Engineering Technology</td>
<td>Embry-Riddle Aeronautical University, Daytona: Mechanical Engineering (B.S.), MS in Mechanical Engineering, Ph.D. in Mechanical Engineering, MS in Unmanned and Autonomous Systems Engineer, MS in Unmanned Systems</td>
</tr>
</tbody>
</table>
### Sample Career Specialties from the Demand Occupations List

<table>
<thead>
<tr>
<th>CAREER</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical and Electronics Repairers, Commercial and Industrial Equipment, Electrical and Electronic Equipment Assemblers, Electromechanical Equipment Assemblers, Aerospace Engineering and Operations Technicians</td>
<td>First-line Supervisors of Production and Operating Workers, Engineering Technology Support Specialist, Robotics and Simulation Technician</td>
</tr>
</tbody>
</table>

### Career and Technical Student Association

FL-TSA, SkillsUSA

### Internship/Work Experience Recommendations

Career Academy students may apply for summer internships after their junior year.

Program of Study Graduation Requirements: [http://www.fldoe.org/academics/graduation-requirements](http://www.fldoe.org/academics/graduation-requirements)