

**RTTT Career and Technical Education STEM Program Descriptions**

<b>Program Title</b>	<b>Industrial Biotechnology 8736000</b>												
<b>CTE Courses and Descriptions</b>	<p><b>3027010 <u>Biotechnology 1</u></b> - to provide exploratory experience combining laboratory and real-life applications in the field of Biotechnology. The content includes, but is not limited to, the study of the nature of science, matter, energy, chemical processes of cells, organisms, cell molecular structure and function, membranes, DNA, plasmids, reproduction, fundamentals of biochemistry, protein synthesis, germ theory, molecular genetics and biotechnology, restriction digest, DNA analysis, levels of organization, molecular to organismal, classification, and taxonomy, genetic diversity, selection, adaptations, and changes through time.</p> <p><b>3027020 <u>Biotechnology 2</u></b> - to provide exploratory experiences and laboratory and real-life applications in the field of Biotechnology. The content includes, but is not limited to, the study of chemical processes in biotechnology, pH, solutions, and molarity, cell propagation, growth and cultures for biotechnology, genetics and biotechnology, gene selection, transformation, analysis, structure and function of various organisms used as genetic models, interdependence of organisms, humans, and the environment, connection between Biotechnology, agricultural, food, and medicine and careers.</p> <p><b>8736030 <u>Biotechnology 3</u></b> - designed to provide students with intense laboratory and research skills in preparation for continued education and/or entry into the biotechnology industry. Students will build upon the skills attained in Biotechnology 1 and Biotechnology 2 as they design and conduct experiments relevant to current biotechnology. A close association with local industry and postsecondary institutions will provide additional opportunities for development and application of biotechnology practices.</p>												
<b>Integrated Core Course(s)</b>	Biology												
<b>Teacher Certification(s)</b>	Biology, Biotechnician 7 G												
<b>Industry Certification(s)</b>	Currently being developed by BioFlorida and the Florida Banner Center for Biotechnology												
<b>Number of Articulated Credits</b>	None												
<b>Implementation Costs</b>	<p>Start-up of Industrial Biotechnology Program (20 Students):</p> <table border="0"> <tr> <td>Equipment</td> <td align="right">\$28,400.00</td> </tr> <tr> <td>Classroom Furnishings</td> <td align="right">\$35,947.00</td> </tr> <tr> <td>Supplies and Reagents</td> <td align="right">\$4,500.00</td> </tr> <tr> <td>Consumables</td> <td align="right">\$5,000.00</td> </tr> <tr> <td>Textbooks</td> <td align="right">\$2,000.00</td> </tr> <tr> <td><b>TOTAL</b></td> <td align="right"><b>\$75,847.00</b></td> </tr> </table>	Equipment	\$28,400.00	Classroom Furnishings	\$35,947.00	Supplies and Reagents	\$4,500.00	Consumables	\$5,000.00	Textbooks	\$2,000.00	<b>TOTAL</b>	<b>\$75,847.00</b>
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<b>Recommended Feeder Program/Course(s)</b>	None												