Biotechnology is a subject area that has enormous implications for the future of the 21st century. It already has a significant impact on our lives, and will continue to revolutionize the ways in which we diagnose and treat disease, lengthen the life span, feed the planet, and remediate the environment. Our nationally recognized Biotechnology program prepares students with the skills and knowledge needed to enter the biotechnology industry. Current graduates may be found in a variety of biotechnology companies, working as Lab Technicians, Manufacturing Associates, Quality Control and Quality Assurance Technicians, and as Validation Consultants.

**Students will be able to:**
- Understand the role of biotechnology in human experience, past and in the present.
- Understand the “benchtop to bottle” process of bringing a biopharmaceutical or other biotechnology-based product to market.
- Understand the Central Dogma, and its role as the theoretical foundation of modern biotechnology
- Understand and be able to apply the scientific method.
- Understand and be able to execute a wide variety of laboratory techniques in microbiology, biochemistry and molecular genetics, including (but not limited to) solution preparation, gene cloning, DNA extraction and amplification, library construction, hybridization, forensic analysis, cell culture, and protein production, purification and verification.
- Generate and maintain accurate lab documentation, including laboratory notebooks, batch records and log books.
- Understand and adhere to the documentation guidelines of cGMP, when required
- Analyze and draw conclusions from generated scientific data, and present findings in a formal laboratory report.
- Understand the basic principles of genomics, proteomics and systems approaches in biotechnology
- Conduct basic bioinformatics-based analysis.
- Use critical thinking and principles of logic to analyze ethical issues raised in the practice of biotechnology.
- Qualify for entry level work in the biomanufacturing sector of the biotechnology industry.

**Admissions Requirements**
1. Complete an application for the program.
2. Provide an official copy of high school transcripts or GED.
3. Provide evidence of college level Biology and Chemistry
4. Obtain permission of Department Chair

**Occupations/Outlook Trends**
For more information about the outlook and trends for the Biotechnology industry please visit:
[www.bls.gov/oco](http://www.bls.gov/oco)

**How Much Can I Expect to Earn?**
To learn more about potential earnings visit:
Bureau of Labor Statistics
Occupational Outlook Handbook
[www.bls.gov/oco](http://www.bls.gov/oco)

**Why Biotechnology at Great Bay?**
- Articulation agreements to a variety of New England colleges and universities.
- Small class size and individual attention from instructors and advisors.
- Credentialed faculty with extensive industry experience.
BIOTECHNOLOGY ADVANCED CERTIFICATE

**Admissions Requirements**
1. Complete an application for the program.
2. Provide proof of high school completion or equivalent.
3. Provide evidence of college level Biology and Chemistry
4. Obtain permission of Department Chair

<table>
<thead>
<tr>
<th>Course #</th>
<th>Course Name</th>
<th>Prerequisites (p)/ Corequisites (c)</th>
<th>Credits</th>
<th>Semester</th>
<th>Grade Earned</th>
<th>Transfer</th>
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<tr>
<td>BTEC105G</td>
<td>Introduction to Biotechnology*</td>
<td>Successful completion of high school Bio or BIOL041G (p) MATH145G/147G or MATH150G/152G or higher (c)</td>
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<td>BTEC210G</td>
<td>Biotechnology Research</td>
<td>BTEC105G and BIOL108G (or BIOL210G) and CHEM115G (or CHEM110G) and MATH145G/147G or MATH150G/152G or higher (p)</td>
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<td>BTEC220G</td>
<td>Biomanufacturing</td>
<td>C- or better in BTEC210G (p)</td>
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*200 level BIOL or CHEM course may be substituted at discretion of the department chair

Note: the Biotechnology Advanced Certificate Program is not financial aid eligible

**Total Credits** 12

**SUCCESS STRATEGIES**
- Take English and Math in your first semester.
- Meet with your Academic Advisor every semester.
- Explore Transfer opportunities.
- Take advantage of Tutoring Services.
- Consider Summer courses to catch up or get ahead.
- Maintain an overall GPA of 2.0 to graduate.
- Check your student email daily.