



# Miami Dade College BIOTECHNOLOGY PROGRAM

## Advanced Technical Certificate (ATC)

**Program Code: C6028    Biotechnology**  
**Program Code: C6029    Bioinformatics**  
**Program Code: C6030    Chemical Technology**

### Advanced Technical Certificate (ATC) – 33 credits

This fast-track certification program is available if you already have a bachelor's degree, or at least an associate degree and a strong background in college-level math and science courses. Students choose between 3 tracks: Biotechnology, Chemical Technology, or Bioinformatics. Your academic background combined with selected courses in the biotechnology program, will provide you with the necessary skills to seek employment in Biotechnology and related industries.

This program is designed to cross-train or re-train professionals from other fields who want to gain the skills and experience necessary to be successful in the Biotechnology industry. Students who complete this certificate are prepared for the same positions as someone who completes an A.S. degree in Biotechnology (Lab Technicians, Lab Assistants, Research Assistants and Media Prep Assistants), but salary will depend on the level of education and experience.

Course Number	Course Title	Credits	Pre-requisites	Co-requisites
<b>BIOTECHNOLOGY CORE C (13 credits hours)</b>				
BSC-2426	Biotechnology: Methods and Applications I	3	None	BSC-2426L
BSC-2426L	Biotechnology: Methods and Applications I Lab	2	None	BSC-2426
BSC-2427	Biotechnology: Methods and Applications II	3	BSC-2426 BSC-2426L	BSC-2427L
BSC-2427L	Biotechnology: Methods and Applications II Lab	2	BSC-2426 BSC-2426L	BSC-2427
BSC-2943L	Bioscience Internship	3	8 credits in track	
<b>*For completion of the ATC-Biotechnology degree, students must choose coursework from <u>only one</u> of the following tracks:</b>				
<b>TRACK 1 Biotechnology (20 credits chosen from the following)</b>				
CGS-1021	Scientific Computing	4	None	STA-2023
ETI-1040	Introduction to Bioscience Manufacturing	3	None	None
ETI-1172 (formerly ETI-1181)	Introduction to Quality Assurance	3	None	None
CHM-2200	Survey of Organic Chemistry	3	CHM-1046	CHM-2200L
CHM-2200L	Survey of Organic Chemistry Lab	1	CHM-1046L	CHM-2200
MCB-2010	Microbiology	3	BSC-2010 BSC-2010L	MCB-2010L CHM-1045
MCB-2010L	Microbiology Lab	2	None	MCB-2010
BSC-2423C	Protein Biotechnology/Tissue Culture	4	BSC-2427 BSC-2427L	None
PCB-2061	Genetics	3	BSC-2010 BSC-2010L	None
<b>OR</b>				
<b>TRACK 2 Bioinformatics (20 credits)</b>				
CGS-1021	Scientific Computing	4	None	STA-2023
CGS-1145	Introduction to Bioinformatics	4	CGS-1021 or CGS-1060	None
CIS-1321	Systems Analysis and Design	4	CGS-1060	None
COP-1334 (replacing COP-2004)	Introduction to Object Oriented Programming C++	4	CGS-1060	None
COP-2700	Databases Application Programming	4	None	None
<b>OR</b>				

<b>TRACK 3 CHEMICAL TECHNOLOGY (20 credits)</b>				
CHM-1046	General Chemistry/Qualitative Analysis	3	CHM-1045	CHM-1046L
CHM-1046L	General Chemistry/Qualitative Analysis Lab	2	CHM-1045L	CHM-1046
CHM-2200	Survey of Organic Chemistry	3	CHM-1046	CHM-2200L
CHM-2200L	Survey of Organic Chemistry Lab	1	CHM-1046L	CHM-2200
CHS-2311C	Introduction to Chemical Instrumentation	4	CHM-2200 CHM2200L OR CHM-2211 CHM-2211L; AND CHM2110C	None
CHM-2110C	Survey of Quantitative Analysis	4	CHM-1046 CHM-1046L	None
ETI-1172 (formerly ETI-1181)	Introduction to Quality Assurance	3	None	None
<b>Total Program Credits with Specialization</b>		<b>33</b>		

**For more information about the Biotechnology program, please contact:**

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