

Certificate in Biotechnology

Certificates may be earned by regularly matriculated or extended learning students and denote successful completion of a prescribed program of study designed to:

1. impart specified professional/vocational/career competencies; or
2. produce mastery of the content of a sub-field of an academic major (discipline); or
3. provide exposure to the range of materials in a traditional or emerging interdisciplinary field.

Certain certificate programs contain 6000-level courses as requirements and/or electives. These 6000-level courses may not be taken by undergraduate students. Candidates must receive two-thirds of their certificate-applicable credit from the university. The transferring of credit or the substitution of courses may occur only after application to the appropriate campus authority.

Pre-Requisites for the Certificate Program

One of the following:

Group A: Completion of the following courses for students majoring in biology, chemistry or biochemistry:

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| BIOL 2010 | Principles of Biology I | 5 |
| BIOL 2020 | Principles of Biology II | 5 |
| CHEM 2100 | General Chemistry I | 4 |
| CHEM 2200 | General Chemistry II | 4 |
| CHEM 2300 | Organic Chemistry for Life Sciences | 3-4 |
| | or CHEM 2400 Organic Chemistry I Lecture | |

Group B: Completion of a B.A. or B.S. in Biology, Chemistry or Biochemistry at this university, or equivalent.

Certificate Requirements (18 units)

A minimum of 8 units chosen from: 8

| | |
|-----------|-------------------|
| BIOL 3100 | Cell Biology |
| BIOL 3120 | Molecular Biology |
| BIOL 3200 | Microbiology |
| BIOL 3300 | Genetics |

A minimum of 8 units chosen from: 8

| | |
|-----------|--------------------------------|
| BIOL 4200 | Medical Microbiology |
| BIOL 4270 | Functional Microbial Genomics |
| BIOL 5100 | Experimental Cellular Analysis |
| BIOL 5130 | Animal Tissue Culture |
| BIOL 5260 | Genomics |
| BIOL 5310 | Advanced Molecular Techniques |
| BIOL 5320 | Virology |
| BIOL 5370 | Immunology |

A minimum of 2 units from the following: 2

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|------------|--------------------------------------|
| BIOL 5752C | Internship in Biology: Biotechnology |
| BIOL 5951 | Independent Research |

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|--------------------|----------------------|
| BIOL 5952 | Independent Research |
| BIOL 5953 | Independent Research |
| BIOL 5954 | Independent Research |
| BIOL 5955 | Independent Research |
| BIOL 5956 | Independent Research |
| Total Units | 18 |