BIOTECHNOLOGICAL SCIENCE A.A.S.

Offered at these campuses:
N North Campus (Williamsville)

The AAS degree incorporates the existing Biotechnological Science Certificate stacked as the first year of curriculum while the second year expands core courses in Biotechnological Science combined with a broad spectrum of the following disciplines: Humanities, Social Sciences, Science, Technology, Engineering, and Math (STEM). This design is intended to produce well-rounded graduates who have career options and the transferable skills necessary to obtain employment.

Industry experts suggest a shortage of qualified technicians exists within the regional workforce in Biotechnology and Advanced Manufacturing practices in Western New York. To fill this need for trained technicians, Biotechnological Science’s AAS curriculum has been carefully developed through a combined effort of local industry professionals and academicians. The structure of the core curriculum offers training in the basic principles of Advanced Manufacturing; but most importantly, it offers multiple hands-on laboratory experiences enabling the student to apply the theory to the process.

ADMISSION CRITERIA INCLUDES:
- high school graduate or HSE (High School Equivalency);
- overall high school average of 75% within the last five years;
- a 75% final grade in high school general biology and chemistry;
- a minimum college GPA of 2.5 within the last 5 years;
- completion of all required developmental English courses;
- completion of developmental math course MT 006; and
- completion of high school biology or Biology 107 and high school chemistry or chemistry with a lab (CH 140/141) achieving a minimal grade of “C” in both within the last 5 years.

PROGRAM COMPETENCIES
Upon graduation with a Biotechnological Science Associate in Applied Science Degree, the graduate will be able to:
- perform laboratory calculations;
- perform record and evaluate quality control procedures;
- report results in writing, orally or electronically by established procedures;
- observe established safety procedures;
- perform procedures necessary to the profession; and
- demonstrate a professional level of conduct, including appearance, quality and quantity of work, human relations, leadership skills, and written and verbal communication skills.

CURRICULUM
Total Degree Credits: 60.0

FIRST YEAR, FALL SEMESTER
BT 101 Introduction to Biotechnological Science .................. 3 cr
BT 105 Quality Control Science ........................................ 3 cr
BT 108 Regulatory Compliance .......................................... 3 cr
BI 110 Biology I ............................................................. 3 cr
BI 115 Laboratory for BI 110 .............................................. 1 cr
EN 100 Composition I: Rhetorical Strategies ....................... 3 cr

FIRST YEAR, SPRING SEMESTER
BT 117 Seminar for Biotechnological Science ...................... 1 cr
BT 128 Food Safety and Sanitation ...................................... 3 cr
CH 180 University Chemistry I ........................................... 3 cr
CH 181 Lab for CH 180 .................................................... 1 cr
MT 143 Introductory Statistics I .......................................... 4 cr
EN 102 Composition for the STEM Disciplines .................... 3 cr

SECOND YEAR, FALL SEMESTER
BT 210 Immunoassay Analysis .......................................... 3 cr
BT 211 Immunoassay Analysis Laboratory ................................ 1 cr
BT 220 Industrial Microbiology .......................................... 3 cr
BT 221 Industrial Microbiology Laboratory ........................ 3 cr
BT 222 Laboratory Calculations .......................................... 1 cr
BT 235 Validation Science ................................................ 3 cr
SUNY Gen Ed Social Science Elective .................................. 3 cr

SECOND YEAR, SPRING SEMESTER
BT 230 Food Processing Technology .................................... 3 cr
BT 231 Laboratory for Food Processing Technology ............. 1 cr
BT 240 Production of BioPharmaceutical Products ............... 3 cr
BT 241 Laboratory for Production of BioPharmaceutical Products .................................................. 1 cr
MA 112 Medical Law and Ethics ......................................... 3 cr
MA 112 History Elective ................................................... 3 cr

CAREER PATHS
Medical laboratories; private physicians’ laboratories; pharmaceutical laboratories; environmental laboratories; research laboratories.

CONTACT
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