

# BIOPROCESS PROFESSIONS

## Bioprocess Technology Certificate

<http://www.sandburg.edu/Academics/Degree-Certificates/Bioprocess%20Technology/index.html>

This certificate is designed to refresh skills for individuals who have great technical skills in the manufacturing area and are looking to explore the bioprocess areas.

## Bioprocess Fermentation Technician Certificate

<http://www.sandburg.edu/Academics/Degree-Certificates/Bioprocess%20Fermentation%20Technician%20Certificate/index.html>

This certificate is designed to prepare individuals to be entry level technicians in the renewable energy and/or waste water control and treatment sectors.

## Bioprocess Operations Technician AAS

<http://www.sandburg.edu/Academics/Degree-Certificates/Bioprocess%20Operations%20AAS/index.html>

This degree program is designed to prepare individuals to become professional technicians in the renewable energy, waste water control and treatment and/or chemical processing sectors.

### Industry Growth

According to Illinois Renewable Fuels Association, there are 12 plants producing approximately 1 billion gallons of ethanol annually. Further, the Bureau of Labor Statistics, reports the Bioprocess industry employs over 11,000 workers with an additional 3,700 workers needed over the next 8 years.

### Admission to the Program: Open First-Time Enrollees

1. Complete an application for admission to the College and, if desired, apply for financial aid.
2. Send an official high school transcript or GED score report to the Admissions and Records Office.
3. Complete the placement exam.
4. Meet with an advisor/counselor to select classes and complete the registration process

### Department of Career and Corporate Development

2400 Tom L. Wilson Blvd.  
Galesburg, IL 61401  
Phone: 309.341.5461

### For Additional Information Contact:

The Welcome Center  
Phone: 309.345.3500  
welcomecenter@sandburg.edu

### For Graduation Requirements:

See the graduation policies and procedures ([http://catalog.sandburg.edu/academicinformation/#graduation\\_policies\\_and\\_procedures](http://catalog.sandburg.edu/academicinformation/#graduation_policies_and_procedures)) page for details.

## Bioprocess Technology - Certificate

Course	Title	Semester Hours
<b>First Year</b>		
<b>Fall Semester</b>		
ELT.100	Electrical Fundamentals	3
BFM.101	Biofuels Fundamentals	2
MFG.130	Industrial Safety	2
CHM.100	Concepts of Chemistry	3
WEL.101	Fundamentals of Welding Theory	2
WEL.103	Welding Survey	1
MAT.101	Technical Mathematics 1	3
Total Semester Hours		16

\* (Students who do not expect to complete their degree within five years should refer to the Graduation Requirements section in this catalog.)

## Bioprocess Fermentation Technician - Certificate

Course	Title	Semester Hours
<b>First Year</b>		
<b>Fall Semester</b>		
ELT.100	Electrical Fundamentals	3
BFM.101	Biofuels Fundamentals	2
MFG.130	Industrial Safety	2
CHM.100	Concepts of Chemistry	3
WEL.101	Fundamentals of Welding Theory	2
WEL.103	Welding Survey	1
MAT.101	Technical Mathematics 1	3
<b>Spring Semester</b>		
ELT.104	Industrial Electrical Control	3
MAT.102	Technical Mathematics 2	3
MFG.125	Industrial Blueprints	3
BFM.201	Ethanol Production	4
BFM.203	Water Treatment & Control	3
Total Semester Hours		32

## Bioprocess Operations Technology AAS

Course	Title	Semester Hours
<b>First Year</b>		
<b>Fall Semester</b>		
BFM.101	Biofuels Fundamentals	2
CHM.100	Concepts of Chemistry	3
ELT.100	Electrical Fundamentals	3
MAT.101	Technical Mathematics 1	3
MFG.130	Industrial Safety	2
WEL.101	Fundamentals of Welding Theory	2
WEL.103	Welding Survey	1

**Spring Semester**

BFM.201	Ethanol Production	4
BFM.203	Water Treatment & Control	3
ELT.104	Industrial Electrical Control	3
MAT.102	Technical Mathematics 2	3
MFG.125	Industrial Blueprints	3

**Summer Session**

BIO.101	General Biology	4
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**Second Year****Fall Semester**

BFM.202	Biodiesel Production	4
ELT.119	Industrial Electronic Control	3
ELT.120	Electrical/Electronics Troubleshooting	3
ENG.101	Freshman Composition 1	3
HYD.101	Hydraulics and Pneumatics	3

**Spring Semester**

BFM.291	Professional Internship 1	3
or	or Professional Internship 2	
BFM.292		
BIO.200	General Microbiology	4
BOC.107	Tech Skills for Business Environment	3
BUS.100	Introduction to Business	3
ELT.213	Process Control & Instrumentation	3
Total Semester Hours		68

**Christopher N. Banker**

Dean of Career and Corporate Development

The Center for Manufacturing Excellence (CME) offers classroom space, a computer lab, and houses Carl Sandburg College's industrial programs. Students may take courses in the following subject areas: welding, Computer Numerical Control Machining (CNC), biofuels, rail, machine tool, manufacturing or electrical. The electrical lab features a host of components to aid in student learning including AC/DC trainers. In 2014, Sandburg became a designated National Academy of Railroad Sciences (NARS) training site offering courses in locomotive electrical and locomotive mechanical. Instruction is delivered by individuals with industry-specific expertise and includes specialized coursework using technical equipment. Two diesel engines inside the CME are available for training opportunities. The College's weld lab offers 26 bay stations. The welding area offers two welding simulators, as well as state of the art multi process welding machines. The CNC Program offers training in programming, setup, and operations while housing multiple lathe, mills, and CNC Machines as well as simulators to properly train students for a career in the machining industry.