

Programs

Engineering Technology

- Architectural and Structural Technology
- Automation Technology
- Biomanufacturing Technology
- Civil Technology
- Electro-Mechanical Technology
- Electronics Technology
- Environmental Technology
- Marine Technology
- Mechanical Engineering Technology

Engineering Transfer

- Engineering Science

Fire Science Technology

- Fire Science Technology

General Studies

- Technical Studies

Liberal Arts & Sciences

- Biotechnology/Biomedical Technology
- Environmental Science
- Math and Science Option

Certificates

- Applied Construction Technology
- Applied Manufacturing
- Biotechnology
- Computer Aided Design and Drafting
- Fire Investigation Specialist
- Fire Prevention Specialist
- Geographic Information Systems
- Marine Trades
- Organic Agriculture Technician
- Surveying
- Water Quality Professional

DIVISION 5

Mathematics, Science, and Engineering



For a complete alphabetical listing of all programs and certificates please see page 11.

Division 5 {V}

Mathematics, Science, and Engineering

Degree offered

Associate in Science in Engineering Technology
(Architectural and Structural Technology)

Credits required 67-70

DEAN EXT. 2214
Peter Schuyler

PROGRAM CONTACT EXT. 2746
Eileen Young, Department Chair and Professor of Engineering and Technology

PROGRAM GOALS STATEMENT

This option prepares students to work as technicians for engineering consulting firms, structural engineers, architects, bridge inspectors, contractors and structural manufacturing companies.

STUDENT LEARNING OUTCOMES (see page 159)

PROGRAM INFORMATION

Students learn in modern laboratories on the latest computers and software and are taught by faculty with many years of professional experience. Students receive many hours of hands-on experience as well as exposure to background theory.

Students who haven't taken basic math courses in high school may complete math prerequisites at BCC.

SUGGESTED TECHNICAL ELECTIVES

Transfer: EGR 272 (with MTH 171, 173, and 214)
Computer-Aided Design: CAD 125, CAD 128
Cooperative Education: CED 210, CED 220

AFTER BCC

Graduates work as home building contractors, design construction technicians, structural computer-aided designers, and industrial and commercial building fabricators.

If you plan to transfer to a four-year institution, visit the Transfer Affairs Web site at www.BristolCC.edu/transfer

INFUSED GENERAL EDUCATION COMPETENCIES

Oral Communication

Engineering Technology, Architectural and Structural Technology

CAREER PROGRAM

GENERAL COURSES

—	ARC 201	Introduction to American Architecture	3 credits
—	ENG 101	Composition I: College Writing	3 credits
—	ENG 102	Composition II: Writing about Literature	3 credits
—	HST 114	United States History from 1877	3 credits

ELECTIVE COURSES

—	ELECTIVE	Global Awareness (Choose from ART 105, ART 106; SOC 101, SOC 212, SOC 252)	3 credits
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CORE COURSES

—	CAD 101	Computer Aided Drafting	3 credits
—	CAD 122	Architectural Drawing	3 credits
—	EGR 103	Computer Skills for Engineers and Technicians	3 credits
—	EGR 124	Soils and Foundations	3 credits
—	EGR 125	Construction Estimating	3 credits
—	EGR 221	Surveying	4 credits
—	EGR 222	Surveying II	4 credits
—	EGR 224	Elements of Structural Design	3 credits
—	EGR 251	Statics	3 credits

CORE ELECTIVES

—	ELECTIVE	Technical elective (Choose from CAD, CED, or EGR)	3-4 credits
—	ELECTIVE	Technical elective (Choose from EGR only)	3-4 credits

MATH & SCIENCE COURSES

—	MTH 141	Technical Mathematics I	4 credits
—	MTH 142	Technical Mathematics II	4 credits
—	PHY 101	Technical Physics I	4 credits
—	PHY 102	Technical Physics II	4 credits

For students interested in transfer, MTH 171, MTH 173, and MTH 214 can be substituted for MTH 141 and MTH 142:

—	MTH 171	Elementary Functions	3 credits
—	MTH 173	Trigonometry	2 credits
—	MTH 214	Calculus I	4 credits

RECOMMENDED COURSE SEQUENCE

SEMESTER	COURSE
FALL SEMESTER 1	MTH 141 or MTH 171/MTH 173; CAD 101; EGR 103; ENG 101; PHY 101
SPRING SEMESTER 2	MTH 142 or MTH 214; CAD 122; EGR 124; ENG 102; PHY 102
SUMMER	Summer courses will reduce fall and spring semester course loads.
FALL SEMESTER 3	ARC 201, EGR 125; EGR 221; EGR 251; HST 114
SPRING SEMESTER 4	Tech Electives (2); EGR 222; EGR 224; ELECTIVE - Global Awareness

Division 5 {V}

Mathematics, Science, and Engineering

Degree offered

Associate in Science in Engineering Technology
(Automation Technology Concentration)

Credits required 65/68

DEAN EXT. 2214
Peter Schuyler

PROGRAM CONTACT EXT. 2248
Mary Cass, Coordinator and Associate Professor of Automation Technology

PROGRAM GOALS STATEMENT

This option prepares students to enter highly-automated manufacturing industries as automation specialists and manufacturing technicians. Students learn to solve complex manufacturing problems using computer-aided design, evaluation and simulation techniques, and engineering principles. The curriculum covers such aspects of manufacturing engineering as materials processing (traditional and CNC), industrial automation, material science, hydraulics, computer-aided design and manufacturing (CAD/CAM), and computer-integrated manufacturing (CIM).

STUDENT LEARNING OUTCOMES (see page 160)

PROGRAM INFORMATION

This program is especially valuable to the person who wants technical diversity. Summer courses will reduce fall and spring semester course loads.

SUGGESTED TECHNICAL ELECTIVES

Transfer: EGR 131, EGR 137, EGR 251, EGR 255 (with MTH 171, 173, and 214)
Cooperative Education: CED 210

AFTER BCC

Graduates work as automation specialists, manufacturing technicians, design technicians, CAD designers, engineering aides, field service technicians, technical representatives, and maintenance technicians. It will open employment doors to many jobs that require multidisciplinary competencies.

If you plan to transfer to a four-year institution, visit the Transfer Affairs Web site at www.BristolCC.edu/transfer

INFUSED GENERAL EDUCATION COMPETENCIES

Oral Communication

Engineering Technology, Automation Technology

CAREER PROGRAM

GENERAL COURSES

—	ENG 101	Composition I: College Writing	3 credits
—	ENG 102	Composition II: Writing about Literature	3 credits
—	HST 114	United States History from 1877	3 credits

Choose one

—	PHL 101	Introduction to Philosophy	3 credits
—	PHL 152	Ethics: Making Ethical Decisions in a Modern World	3 credits

ELECTIVE COURSES

—	ELECTIVE	Global Awareness (Choose from ART 105, ART 106; SOC 101, SOC 212, SOC 252)	3 credits
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CORE COURSES

—	CAD 101	Computer Aided Drafting	3 credits
—	CAD 111	Advanced Computer Aided Design	3 credits
—	CAD 211	Computer Aided Manufacturing	3 credits
—	EGR 103	Computer Skills for Engineers and Technicians	3 credits
—	EGR 111	Fundamentals of Manual Machining	3 credits
—	EGR 112	Automated Machining	3 credits
—	EGR 151	Electrical Machinery	3 credits
—	EGR 171	Fluid Systems	4 credits
—	EGR 172	Material Science	4 credits
—	EGR 211	Programmable Automated Systems and Robotics	3 credits

Technical elective and/or EGR 299 (choose 2)

—	EGR 299	Engineering Projects (Recommended)	3 credits
—	ELECTIVE	Technical elective (Choose from EGR, CAD, or CED 210)	3-4 credits
—	ELECTIVE	Technical elective (Choose from EGR, CAD, or CED 210)	3-4 credits

MATH & SCIENCE COURSES

—	MTH 141	Technical Mathematics I	4 credits
—	MTH 142	Technical Mathematics II	4 credits
—	PHY 101	Technical Physics I	4 credits

For students interested in transfer, MTH 171, MTH 173, and MTH 214 can be substituted for MTH 141 and MTH 142

—	MTH 171	Elementary Functions	3 credits
—	MTH 173	Trigonometry	2 credits
—	MTH 214	Calculus I	4 credits

RECOMMENDED COURSE SEQUENCE

SEMESTER	COURSE
FALL SEMESTER 1	CAD 101; EGR 111; ENG 101; MTH 141 (or MTH 171/173); PHY 101
SPRING SEMESTER 2	CAD 111; EGR 103; EGR 112; ENG 102; MTH 142 (or MTH 214)
FALL SEMESTER 3	PHL 101 or PHL 152; CAD 211; EGR 151; EGR 171; HST 114
SPRING SEMESTER 4	2 Tech electives or EGR 299 and 1 Tech elective; EGR 172; EGR 211; ELECTIVE - Global Awareness

Division 5 {V}

Mathematics, Science, and Engineering

Degree offered

Associate in Science in Engineering Technology
(Biomanufacturing Technology)

Credits required 69

DEAN EXT. 2214
Peter Schuyler

PROGRAM CONTACT EXT. 2248
Mary Cass, Coordinator and Associate Professor of Automation Technology

PROGRAM GOALS STATEMENT

This option prepares students for technical positions in biotechnology and pharmaceutical manufacturing industries. Students learn to use manufacturing equipment and to understand biological and chemical processes in a hands-on, practical environment.

STUDENT LEARNING OUTCOMES (see page 160)

PROGRAM INFORMATION

The program focuses on developing an understanding of engineering principles applied to solving technical problems.

Students develop expertise in computers, automated equipment, and working in a laboratory environment.

This program is challenging. Limit outside responsibilities (e.g., work).

AFTER BCC

Graduates can enter the workforce as biomanufacturing, bioprocess or pharmaceutical manufacturing technicians.

INFUSED GENERAL EDUCATION COMPETENCIES

Oral Communication

Engineering Technology, Biomanufacturing Technology

CAREER PROGRAM

GENERAL COURSES

—	ENG 101	Composition I: College Writing	3 credits
—	ENG 102	Composition II: Writing about Literature	3 credits
—	HST 114	United States History from 1877	3 credits

Choose one

—	PHL 101	Introduction to Philosophy	3 credits
—	PHL 152	Ethics: Making Ethical Decisions in a Modern World	3 credits

ELECTIVE COURSES

—	ELECTIVE	Global Awareness (Choose from ART 105, ART 106; SOC 101, SOC 212, SOC 252)	3 credits
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CORE COURSES

—	CED 210	Cooperative Work Experience I	3 credits
—	EGR 103	Computer Skills for Engineers and Technicians	3 credits
—	EGR 131	Electrical Circuits I	4 credits
—	EGR 132	Electrical Circuits II	4 credits
—	EGR 171	Fluid Systems	4 credits
—	EGR 172	Material Science	4 credits
—	EGR 211	Industrial Automation	3 credits
—	EGR 255	Thermodynamics	3 credits

MATH & SCIENCE COURSES

—	BIO 121	Fundamentals of Biological Science I	4 credits
—	BIO 126	Introduction to Biotechnology	3 credits
—	BIO 239	Elements of Microbiology	4 credits
—	CHM 113	Fundamentals of Chemistry I	4 credits
—	MTH 119	Fundamental Statistics	3 credits
—	MTH 141	Technical Mathematics I	4 credits
—	PHY 101	Technical Physics I	4 credits

RECOMMENDED COURSE SEQUENCE

SEMESTER	COURSE
FALL SEMESTER 1	BIO 121; EGR 103; ENG 101; MTH 141; PHY 101
SPRING SEMESTER 2	PHL 101 or PHL 152; BIO 239; EGR 172; ENG 102; MTH 119
SUMMER	Summer courses will reduce fall and spring semester course loads.
FALL SEMESTER 3	BIO 126; CHM 113; EGR 131; EGR 171; HST 114
SPRING SEMESTER 4	CED 210; EGR 132; EGR 211; EGR 255; ELECTIVE - Global Awareness

Division 5 {V}

Mathematics, Science, and Engineering

Degree offered

Associate in Science in Engineering Technology
(Civil Concentration)

Credits required 65-69

DEAN EXT. 2214
Peter Schuyler

PROGRAM CONTACT EXT. 2746
Eileen Young, Department Chair and Professor of Engineering and Technology

PROGRAM GOALS STATEMENT

This option prepares students to work as technicians in the private and public sector for civil engineering consulting firms, construction companies, land developers, public works agencies, highway departments, and surveyors.

STUDENT LEARNING OUTCOMES (see page 160)

PROGRAM INFORMATION

Students receive many hours of hands-on experience as well as exposure to background theory in modern laboratories and computer labs taught by faculty with many years of professional experience.

Students may complete math prerequisites at BCC.

SUGGESTED TECHNICAL ELECTIVES:

Transfer: EGR 272 (with MTH 171, 173, and 214)
Geographic Information Systems: GIS 101, GIS 102
Computer-Aided Design: CAD 122, CAD 125, GIS 101, 102
Cooperative Education: CED 210, CED 220

AFTER BCC

Alumni work for land development companies, surveyors, and city, town, and state governments.

If you plan to transfer to a four-year institution, visit the Transfer Affairs Web site at www.BristolCC.edu/transfer

INFUSED GENERAL EDUCATION COMPETENCIES

Oral Communication

Engineering Technology, Civil Technology

CAREER PROGRAM

GENERAL COURSES

—	ENG 101	Composition I: College Writing	3 credits
—	ENG 102	Composition II: Writing about Literature	3 credits
—	HST 114	United States History from 1877	3 credits

Choose one

—	PHL 101	Introduction to Philosophy	3 credits
—	PHL 152	Ethics: Making Ethical Decisions in a Modern World (recommended)	3 credits

ELECTIVE COURSES

—	ELECTIVE	Global Awareness (Choose from ART 105, ART 106, SOC 101, SOC 212, SOC 252)	3 credits
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CORE COURSES

—	CAD 101	Computer Aided Drafting	3 credits
—	CAD 128	Civil Drafting and Design	3 credits
—	EGR 103	Computer Skills for Engineers and Technicians	3 credits
—	EGR 124	Soils and Foundations	3 credits
—	EGR 125	Construction Estimating	3 credits
—	EGR 221	Surveying	4 credits
—	EGR 222	Surveying II	4 credits
—	EGR 224	Elements of Structural Design	3 credits
—	EGR 251	Statics	3 credits

CORE ELECTIVES

Choose from CAD, CED, CHM 111 or higher, EGR, GIS, or PHY

—	ELECTIVE	Technical elective	3-4 credits
—	ELECTIVE	Technical elective	3-4 credits
—	ELECTIVE	Technical elective	3-4 credits

MATH & SCIENCE COURSES

—	MTH 141	Technical Mathematics I	4 credits
—	MTH 142	Technical Mathematics II	4 credits
—	PHY 101	Technical Physics I	4 credits

For students interested in transfer, MTH 171, MTH 173, and MTH 214 can be substituted for MTH 141 and MTH 142

—	MTH 171	Elementary Functions	3 credits
—	MTH 173	Trigonometry	2 credits
—	MTH 214	Calculus I	4 credits

RECOMMENDED COURSE SEQUENCE

SEMESTER	COURSE
FALL SEMESTER 1	ENG 101, EGR 103, EGR 125, MTH 141 (or MTH 171 and MTH 173), PHY 101
SPRING SEMESTER 2	CAD 101, ENG 102, EGR 124, MTH 142 or (MTH 214), PHL 101 or PHL 152
SUMMER	Summer courses will reduce fall and spring semester course loads.
FALL SEMESTER 3	EGR 251, EGR 221, HST 114, CAD 128, Tech Elective
SPRING SEMESTER 4	EGR 222, EGR 224, Tech Electives (2), Global Awareness Elective

Division 5 {V}

Mathematics, Science, and Engineering

Degree offered

Associate in Science in Engineering Technology
(Electro-Mechanical Concentration)

Credits required 68/73

DEAN EXT. 2214
Peter Schuyler

PROGRAM CONTACT EXT. 2746
Eileen Young, Department Chair and Professor of Engineering and Technology

PROGRAM GOALS STATEMENT

This program prepares students to work in high-tech industries as technical employees who can work on equipment that uses both electrical and mechanical engineering principles.

STUDENT LEARNING OUTCOMES (see page 160)

PROGRAM INFORMATION

This program is especially valuable to the person who wants technical diversity. It will open employment doors to many jobs that require multidisciplinary competencies.

SUGGESTED TECHNICAL ELECTIVES

For students who want to specialize, choose these electives:
Electrical: EGR 133, EGR 135
Automation: EGR 111, EGR 112, EGR 211
Mechanical: EGR 151, EGR 172, EGR 212
Computer-Aided Design: CAD 111, CAD 112, CAD 172
Cooperative Education: CED 210, CED 220
Transfer: CAD 172, EGR 152 (with MTH 171, 173, and 214)

AFTER BCC

Graduates work as engineering aides, field service technicians, technical representatives, maintenance technicians, and automation technicians.

If you plan to transfer to a four-year institution, visit the Transfer Affairs Web site at www.BristolCC.edu/transfer

INFUSED GENERAL EDUCATION COMPETENCIES

Oral Communication

(*REC) Recommended

Engineering Technology, Electro-Mechanical Technology

CAREER PROGRAM

GENERAL COURSES

___	ENG 101	Composition I: College Writing	3 credits
___	ENG 102	Composition II: Writing about Literature	3 credits
___	HST 114	United States History from 1877	3 credits

Choose one

___	PHL 101	Introduction to Philosophy	3 credits
___	PHL 152	Ethics: Making Ethical Decisions in a Modern World (*REC)	3 credits

ELECTIVE COURSES (Choose from ART 105, ART 106; SOC 101, SOC 212, SOC 252)

___	ELECTIVE	Global Awareness	3 credits
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CORE COURSES

___	CAD 101	Computer Aided Drafting	3 credits
___	EGR 103	Computer Skills for Engineers and Technicians	3 credits
___	EGR 131	Electrical Circuits I	4 credits
___	EGR 132	Electrical Circuits II	4 credits
___	EGR 137	Digital Computer Fundamentals I	4 credits
___	EGR 235	Electronic Theory I	4 credits
___	EGR 251	Statics	3 credits

EGR 299 or additional Technical Elective (Choose one)

___	EGR 299	Engineering Projects	3 credits
___	ELECTIVE	Technical elective	3-4 credits

CORE ELECTIVES

Choose from CAD, EGR, CED 210 or CED 220

___	ELECTIVE	Technical elective	3-4 credits
___	ELECTIVE	Technical elective	3-4 credits
___	ELECTIVE	Technical elective	3-4 credits

MATH & SCIENCE COURSES

___	MTH 141	Technical Mathematics I	4 credits
___	MTH 142	Technical Mathematics II	4 credits
___	PHY 101	Technical Physics I	4 credits

Choose one

___	ELECTIVE	Lab Science (Choose from CHM 111, CHM 112, CHM 113, CHM 114)	4 credits
___	PHY 102	Technical Physics II	4 credits

For students interested in transfer, MTH 171, MTH 173, and MTH 214 can be substituted for MTH 141 and MTH 142

___	MTH 171	Elementary Functions	3 credits
___	MTH 173	Trigonometry	2 credits
___	MTH 214	Calculus I	4 credits

RECOMMENDED COURSE SEQUENCE

SEMESTER	COURSE
FALL SEMESTER 1	MTH 141 or MTH 171/MTH 173; EGR 103; EGR 131; ENG 101; PHY 101
SPRING SEMESTER 2	MTH 142 or MTH 214; PHY 102 or CHM elective; CAD 101; EGR 132; EGR 137
SUMMER	Summer courses will reduce fall and spring semester course loads.
FALL SEMESTER 3	Core Elective; EGR 235; EGR 251; ENG 102; HST 114
SPRING SEMESTER 4	Core Electives (2); EGR 299 or Tech Elective; PHL 101 or PHL 152; ELECTIVE - Global Awareness

Division 5 {V}

Mathematics, Science, and Engineering

Degree offered

Associate in Science in Engineering Technology
(Electronics Technology Concentration)

Credits required 67/71

DEAN EXT. 2214
Peter Schuyler

PROGRAM CONTACT EXT. 2746
Eileen Young, Department Chair and Professor
of Engineering and Technology

PROGRAM GOALS STATEMENT

This program prepares students to work as technicians in many positions for which training in electricity and electronics technology are required. Some of the most common job opportunities, as a technician, are: service shop, industrial manufacturing, research and development laboratory, field service, technical writer, and technical sale. Graduates may transfer to a Bachelor of Science in Technology program.

STUDENT LEARNING OUTCOMES (see page 160)

PROGRAM INFORMATION

All technical courses use computer applications, and laboratories are equipped with modern test equipment. Every technical course has a related laboratory, which provides hands-on experience.

Not all courses are offered every year. Read course descriptions to plan course schedule.

SUGGESTED TECHNICAL ELECTIVES

Transfer: EGR 251, CHM 113 (with MTH 171, 173, and 214)
A+ Certification: CIS 160, CIS 121
Industrial Automation: EGR 171, EGR 211
Cooperative Education: CED 210, CED 220

AFTER BCC

Graduates can work as an equipment installation technician, central office technician, computer technician, engineering assistant, manufacturing lab technician, fiber optics technician, field service and installation technician, or customer support specialist.

If you plan to transfer to a four-year institution, visit the Transfer Affairs Web site at www.BristolCC.edu/transfer

INFUSED GENERAL EDUCATION COMPETENCIES

Oral Communication

(*REC) Recommended

Engineering Technology, Electronics Technology

CAREER PROGRAM

GENERAL COURSES

—	ENG 101	Composition I: College Writing	3 credits
—	ENG 102	Composition II: Writing about Literature	3 credits
—	HST 114	United States History from 1877	3 credits

Choose one

—	PHL 101	Introduction to Philosophy	3 credits
—	PHL 152	Ethics: Making Ethical Decisions in a Modern World (*REC)	3 credits

ELECTIVE COURSES (Choose from ART 105, ART 106; SOC 101, SOC 212, SOC 252)

—	ELECTIVE	Global Awareness	3 credits
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CORE COURSES

—	EGR 103	Computer Skills for Engineers and Technicians	3 credits
—	EGR 131	Electrical Circuits I	4 credits
—	EGR 132	Electrical Circuits II	4 credits
—	EGR 133	Computer Configuration & Repair	4 credits
—	EGR 135	Computer Communications Fundamentals	4 credits
—	EGR 137	Digital Computer Fundamentals I	4 credits
—	EGR 235	Electronic Theory I	4 credits

Choose one

—	EGR 299	Engineering Projects	3 credits
—	ELECTIVE	Technical elective	3-4 credits

CORE ELECTIVES

Choose from EGR, CAD, CED 210, CED 220, CIS 160, CIS 121, CHM 113

—	ELECTIVE	Technical elective	3-4 credits
—	ELECTIVE	Technical elective	3-4 credits

MATH & SCIENCE COURSES

—	MTH 141	Technical Mathematics I	4 credits
—	MTH 142	Technical Mathematics II	4 credits
—	PHY 101	Technical Physics I	4 credits
—	PHY 102	Technical Physics II	4 credits

For students interested in transfer, MTH 171, MTH 173, and MTH 214 can be substituted for MTH 141 and MTH 142

—	MTH 171	Elementary Functions	3 credits
—	MTH 173	Trigonometry	2 credits
—	MTH 214	Calculus I	4 credits

RECOMMENDED COURSE SEQUENCE

SEMESTER	COURSE
FALL SEMESTER 1	MTH 141 or MTH 171/MTH 173; EGR 103; EGR 131; ENG 101; PHY 101
SPRING SEMESTER 2	MTH 142 or MTH 214; EGR 132; ENG 102; HST 114; PHY 102
SUMMER	Summer courses will reduce fall and spring semester course loads.
FALL SEMESTER 3	PHL 101 or PHL 152; Technical Electives (2); EGR 135; EGR 137
SPRING SEMESTER 4	EGR 299 or Technical elective (1); EGR 133; EGR 235; ELECTIVE - Global Awareness

Division 5 {V}

Mathematics, Science, and Engineering

Degree offered

Associate in Science in Engineering Technology
(Environmental Concentration)

Credits required 67/71

DEAN EXT. 2214
Peter Schuyler

PROGRAM CONTACT EXT. 2771
Robert Rak, Coordinator and Professor of Environmental
Technology

PROGRAM GOALS STATEMENT

Students consider issues of safe land use, water resources, and hazardous waste management. They prepare for entry-level positions in the rapidly expanding enviro-tech industry with an in-depth review of the regulatory process.

STUDENT LEARNING OUTCOMES (see page 160)

PROGRAM INFORMATION

Many courses are offered in the summer.

SUGGESTED TECHNICAL ELECTIVES

Water Treatment: EGR 151, EGR 214, EGR 242, SCI 112
Aquaculture: EGR 151, SCI 119, SCI 131, SCI 132
Computer-Aided Design: CAD 122, CAD 128, CAD 172

AFTER BCC

Graduates work for environmental engineering firms and as technicians helping companies deal with environmental concerns.

If you plan to transfer to a four-year institution, visit the Transfer Affairs Web site at www.BristolCC.edu/transfer

INFUSED GENERAL EDUCATION COMPETENCIES

Oral Communication

(*REC) Recommended

Engineering Technology, Environmental Technology

CAREER PROGRAM

GENERAL COURSES

—	ENG 101	Composition I: College Writing	3 credits
—	ENG 102	Composition II: Writing about Literature	3 credits
—	HST 113	United States History to 1877	3 credits
—	HST 114	United States History from 1877	3 credits

Choose one

—	PHL 101	Introduction to Philosophy	3 credits
—	PHL 152	Ethics: Making Ethical Decisions in a Modern World (*REC)	3 credits

ELECTIVE COURSES (Choose from ART 105, ART 106; SOC 101, SOC 212, SOC 252)

—	ELECTIVE	Global Awareness	3 credits
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CORE COURSES

—	CAD 101	Computer Aided Drafting	3 credits
—	EGR 103	Computer Skills for Engineers and Technicians	3 credits
—	EGR 141	Introduction to Environment	3 credits
—	EGR 244	Water Supply and Hydrology	4 credits
—	EGR 245	Hazardous Waste/Waste Management	4 credits
—	GIS 101	Introduction to Geographic Information Systems	3 credits
—	GIS 102	Applications of Geographic Information Systems	3 credits
—	INT 101	Work-Based Experience (or select CED 210 as Technical Elective)	1 credit

EGR 299 or additional Technical Elective

—	EGR 299	Engineering Projects	3 credits
—	ELECTIVE	Technical elective	3-4 credits

CORE ELECTIVES

Choose from EGR, CAD, CED 210, CED 220, GLG, and SCI

—	ELECTIVE	Technical elective	3-4 credits
—	ELECTIVE	Technical elective	3-4 credits

MATH & SCIENCE COURSES

—	CHM 111	General College Chemistry I	4 credits
—	CHM 120	Environmental Chemistry	4 credits
—	MTH 141	Technical Mathematics I	4 credits
—	MTH 142	Technical Mathematics II	4 credits

For students interested in transfer, MTH 171, MTH 173, and MTH 214 can be substituted for MTH 141 and MTH 142

—	MTH 171	Elementary Functions	3 credits
—	MTH 173	Trigonometry	2 credits
—	MTH 214	Calculus I	4 credits

RECOMMENDED COURSE SEQUENCE

SEMESTER	COURSE
FALL SEMESTER 1	CHM 111; EGR 103; EGR 141; ENG 101; MTH 141 (or MTH 171/173)
SPRING SEMESTER 2	CAD 101; CHM 120; ENG 102; HST 113; MTH 142 (or MTH 214)
SUMMER	Summer courses will reduce fall and spring semester course loads.
FALL SEMESTER 3	ELECTIVE - Technical elective; PHL 101 or PHL 152 (PHL 152 recommended); EGR 245; GIS 101; HST 114
SPRING SEMESTER 4	INT 101 or CED 210; EGR 299 or additional Technical Elective; ELECTIVE - Global Awareness; ELECTIVE - Technical elective; EGR 244; GIS 102

Division 5 {V}

Mathematics, Science, and Engineering

Degree offered

Associate in Science in Engineering Technology
(Marine Technology)

Credits required 69

DEAN EXT. 2214
Peter Schuyler

PROGRAM CONTACT EXT. 2771
Robert Rak, Coordinator and Professor of Environmental
Technology

PROGRAM GOALS STATEMENT

The program is designed to provide the knowledge and skills required of a scientific support technician. Students learn the design, theory of operation and service, and installation techniques of the many systems specific to marine applications, including engine, transmission, electrical, fuel and emissions systems on vessels large and small.

STUDENT LEARNING OUTCOMES (see page 160)

PROGRAM INFORMATION

Choose electives to specialize if desired.

Some courses in this program are only available in the evening and/or at satellite locations.

EGR 162 and many marine industry careers require good physical health and the ability to swim. Students with issues in this area should discuss them with the program director before enrollment.

RECOMMENDED ELECTIVES

Marine Trades: EGR 265 and EGR 266
Marine Fisheries: EGR 267 and EGR 268
ROV Technician: EGR 171 and EGR 211

AFTER BCC

Graduates work as technicians in a variety of marine trades professions, such as fisheries observers, oceanography and hydrographic survey technicians, or remotely operated vehicle (ROV) technicians.

If you plan to transfer to a four-year institution, visit the Transfer Affairs Web site at www.BristolCC.edu/transfer

(*REC) Recommended

Engineering Technology, Marine Technology

CAREER PROGRAM

GENERAL COURSES

___	COM 101	Fundamentals of Public Speaking	3 credits
___	ECN 112	Principles of Economics — Micro	3 credits
___	ENG 101	Composition I: College Writing	3 credits
___	ENG 102	Composition II: Writing about Literature	3 credits
___	HST 114	United States History from 1877	3 credits
___	SOC 101	Principles of Sociology	3 credits

CORE COURSES

___	EGR 103	Computer Skills for Engineers and Technicians	3 credits
___	EGR 141	Introduction to Environment	3 credits
___	EGR 151	Electrical Machinery	3 credits
___	EGR 161	Introduction to the Marine Industry	3 credits
___	EGR 162	Marine Safety	1 credit
___	EGR 244	Water Supply and Hydrology	4 credits
___	EGR 261	Marine Systems	4 credits
___	EGR 263	Marine Communication-Navigation Systems	4 credits
___	GIS 101	Introduction to Geographic Information Systems	3 credits

CORE ELECTIVES

Choose from EGR 211, EGR 171, EGR 265, EGR 266, EGR 267, and EGR 268

___	ELECTIVE	Technical elective	3-4 credits
___	ELECTIVE	Technical elective	3-4 credits

MATH & SCIENCE COURSES

___	BIO 232	Marine Biology	4 credits
___	MTH 119	Fundamental Statistics	3 credits
___	MTH 141	Technical Mathematics I	4 credits
___	SCI 119	Coastal Science	4 credits

RECOMMENDED COURSE SEQUENCE

SEMESTER	COURSE
FALL SEMESTER 1	EGR 103; EGR 141; EGR 161; ENG 101; MTH 141
SPRING SEMESTER 2	EGR 244; ENG 102; MTH 119; SCI 119; COM 101
SUMMER	Summer courses will reduce fall and spring semester course loads.
FALL SEMESTER 3	Core Elective; EGR 151; EGR 261; GIS 101; HST 114
SPRING SEMESTER 4	Core Elective; BIO 232; ECN 112; EGR 162; EGR 263; SOC 101

Division 5 {V}

Mathematics, Science, and Engineering

Degree offered

Associate in Science in Engineering Technology
(Mechanical Technology)

Credits required 67/71

DEAN EXT. 2214
Peter Schuyler

PROGRAM CONTACT EXT. 2746
Eileen Young, Department Chair and Professor of Engineering and Technology

PROGRAM GOALS STATEMENT

This option prepares students as technicians and mechanical designers. Students learn aspects of mechanical engineering such as strength of materials, materials science, fluid systems and computer-aided design.

STUDENT LEARNING OUTCOMES (see page 160)

PROGRAM INFORMATION

Students gain hands-on experience with mechanical systems (hydraulics, pneumatics, mechanisms), materials, and computer-aided design.

SUGGESTED TECHNICAL ELECTIVES

Transfer: EGR 131, EGR 132, EGR 211 (with MTH 171, 173, and 214)

Automation: EGR 111, EGR 112, EGR 211

Computer-Aided Design: CAD 111, CAD 112, CAD 211

Cooperative Education: CED 210, CED 220

AFTER BCC

Graduates work as mechanical designers, manufacturing technicians, industrial technicians, design technicians, and CAD designers.

If you plan to transfer to a four-year institution, visit the Transfer Affairs Web site at www.BristolCC.edu/transfer

INFUSED GENERAL EDUCATION COMPETENCIES

Oral Communication

Engineering Technology, Mechanical Engineering Technology

CAREER PROGRAM

GENERAL COURSES

—	ENG 101	Composition I: College Writing	3 credits
—	ENG 102	Composition II: Writing about Literature	3 credits
—	HST 114	United States History from 1877	3 credits

ELECTIVE COURSES

—	ELECTIVE	Global Awareness	3 credits
<i>Choose from ART 105, ART 106; SOC 101, SOC 212, SOC 252</i>			
—	ELECTIVE	Humanities	3 credits
<i>Choose from ARC 201, COM 101, COM 114, COM 118, PHL 152, or foreign language recommended</i>			

CORE COURSES

—	CAD 101	Computer Aided Drafting	3 credits
—	CAD 172	Computer Aided Mechanical Design	3 credits
—	EGR 103	Computer Skills for Engineers and Technicians	3 credits
—	EGR 151	Electrical Machinery	3 credits
—	EGR 171	Fluid Systems	4 credits
—	EGR 172	Material Science	4 credits
—	EGR 251	Statics	3 credits
—	EGR 272	Strength of Materials	4 credits

CORE ELECTIVES

Choose from CAD 111, CED 210, CED 220, CHM 113, EGR 101, 111, 112, 125, 140, 190, 211, 255 or 299

—	ELECTIVE	Technical elective	3-4 credits
—	ELECTIVE	Technical elective	3-4 credits
—	ELECTIVE	Technical elective	3-4 credits

MATH & SCIENCE COURSES

—	MTH 141	Technical Mathematics I	4 credits
—	MTH 142	Technical Mathematics II	4 credits
—	PHY 101	Technical Physics I	4 credits
—	PHY 102	Technical Physics II	4 credits

For students interested in transfer, MTH 171, MTH 173, and MTH 214 can be substituted for MTH 141 and MTH 142

—	MTH 171	Elementary Functions	3 credits
—	MTH 173	Trigonometry	2 credits
—	MTH 214	Calculus I	4 credits

RECOMMENDED COURSE SEQUENCE

SEMESTER	COURSE
FALL SEMESTER 1	MTH 141 or MTH 171/MTH 173; ENG 101, EGR 103, EGR 172, PHY 101
SPRING SEMESTER 2	MTH 142 or MTH 214; ENG 102, EGR 171 or Tech Elective, PHY 102, Global Awareness, Humanities, or Tech Elective
SUMMER	Summer courses will reduce fall and spring semester course loads.
FALL SEMESTER 3	CAD 101, EGR 251, EGR 151, HST 114, Global Awareness, Humanities, or Tech Elective
SPRING SEMESTER 4	CAD 172, EGR 272, EGR 171 or Tech Elective, Global Awareness, Humanities, or Tech Elective

Division 5 {V}

Mathematics, Science, and Engineering

Degree offered

Associate in Science in Engineering Transfer
(Engineering Science Transfer Concentration)

Credits required 64/70

DEAN EXT. 2214
Peter Schuyler

PROGRAM CONTACT EXT. 2476
Eileen Young, Department Chair and Professor of Engineering and Technology

PROGRAM GOALS STATEMENT

This option prepares students to transfer to engineering programs at four-year colleges and universities. Students choose core electives from an approved list based on an engineering discipline of their choice. Students who are not prepared for calculus can take the prerequisite math courses at BCC.

STUDENT LEARNING OUTCOMES (see page 160)

PROGRAM INFORMATION

Students may also elect to be in the UMass Dartmouth/BCC Cooperative Education program.

AFTER BCC

Graduates of this program have successfully transferred to many four-year institutions, including Brown University, Northeastern University, University of Massachusetts, University of Rhode Island, and Worcester Polytechnic Institute.

BCC participates in the statewide MassTransfer program and has developed many program-to-program transfer articulation agreements which guarantee admission and credit transfer. For a complete listing of eligible MassTransfer programs and current BCC articulation agreements, visit the Transfer Affairs Web site at www.BristolCC.edu/transfer

INFUSED GENERAL EDUCATION COMPETENCIES

Oral Communication

(*REC) Recommended

Engineering Transfer, Engineering Science

TRANSFER PROGRAM

GENERAL COURSES

—	ENG 101	Composition I: College Writing	3 credits
—	ENG 102	Composition II: Writing about Literature	3 credits
—	ENG 215	Technical Writing	3 credits
—	HST 114	United States History from 1877	3 credits
—	SOC 101	Principles of Sociology	3 credits

Choose one

—	PHL 101	Introduction to Philosophy	3 credits
—	PHL 152	Ethics: Making Ethical Decisions in a Modern World (*REC)	3 credits

CORE COURSES

—	EGR 204	Engineering Applications of MATLAB	1 credit
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CORE ELECTIVES

Choose from BIO 121, CAD 101, CAD 111, CAD 128, CHM 114, CIS 158, EGR 103, EGR 131, EGR 231/EGR 233, EGR 232/EGR 234, EGR 251/EGR 253, EGR 221, EGR 222, EGR 272, EGR 171, EGR 137, EGR 255, and EGR 172

—	ELECTIVE		3-4 credits
—	ELECTIVE		3-4 credits
—	ELECTIVE		3-4 credits
—	ELECTIVE		3-4 credits
—	ELECTIVE		3-4 credits
—	ELECTIVE		3-4 credits

MATH & SCIENCE COURSES

—	CHM 113	Fundamentals of Chemistry I	4 credits
—	MTH 214	Calculus I	4 credits
—	MTH 215	Calculus II	4 credits
—	MTH 253	Calculus III	4 credits
—	MTH 254	Ordinary Differential Equations	3 credits
—	PHY 211	General Physics I	4 credits
—	PHY 212	General Physics II	4 credits

RECOMMENDED COURSE SEQUENCE

SEMESTER	COURSE
FALL SEMESTER 1	Technical Elective; CHM 113; ENG 101; MTH 214; SOC 101
SPRING SEMESTER 2	PHL 101 or PHL 152; Technical Elective; ENG 102; MTH 215; PHY 211
SUMMER	Summer courses will reduce fall and spring semester course loads.
FALL SEMESTER 3	Technical Electives (2); HST 114; MTH 253; PHY 212
SPRING SEMESTER 4	Technical Electives (2); EGR 204; ENG 215; MTH 254

Fire Science Technology

CAREER PROGRAM

Division 5 {V}

Mathematics, Science, and Engineering

Degree offered

Associate in Science in Fire Science Technology

Credits required 61/64

DEAN EXT. 2214
Peter Schuyler

PROGRAM CONTACT EXT. 3789
Stephen Rivard, Coordinator of Fire Science Technology

PROGRAM GOALS STATEMENT

This program builds a student's knowledge base to meet the needs of the fire service as well as the insurance industry. It is designed to provide a degree to firefighters, insurance company inspectors, and students aspiring to those positions.

STUDENT LEARNING OUTCOMES (see page 160)

PROGRAM INFORMATION

Fire Science courses are only offered in the evening.

RECOMMENDED ELECTIVES

CRJ 101 Introduction to Criminal Justice; CRJ 221 Juvenile Offenders; CRJ 256 Criminal Investigation; FIR 158 Plans Review; FIR 170 Emergency Care I; FIR 171 Emergency Care II; FIR 254 Report Writing; FIR 255 Related Fire Codes and Ordinances.

AFTER BCC

Graduates are serving as local fire chiefs, captains, lieutenants, firefighters, fire inspectors, fire investigators, and insurance inspectors.

Recent graduates have transferred to baccalaureate programs in Fire Science at Salem State College, Anna Maria College, and Providence College.

If you plan to transfer to a four-year institution, visit the Transfer Affairs Web site at www.BristolCC.edu/transfer

INFUSED GENERAL EDUCATION COMPETENCIES

Multicultural Perspective

GENERAL COURSES

___	COM 101	Fundamentals of Public Speaking	3 credits
___	ENG 101	Composition I: College Writing	3 credits
___	ENG 102	Composition II: Writing about Literature	3 credits

Choose one 6-credit sequence

___	HST 111	The West and the World I	3 credits
___	HST 112	The West and the World II	3 credits
___	HST 113	United States History to 1877	3 credits
___	HST 114	United States History from 1877	3 credits

Choose one

___	MTH 111	Technical Mathematics for Fire Science	3 credits
___	MTH 141	Technical Mathematics I (recommended for transfer purposes)	4 credits

Choose one

___	PSY 101	General Psychology	3 credits
___	SOC 101	Principles of Sociology	3 credits

ELECTIVE COURSES

___	ELECTIVE	Lab Science	4 credits
___	ELECTIVE	Technical Literacy	3 credits

Choose from CIS 113, CIS 110, CIS 111, CIS 120, or CIS 122

PROGRAM COURSES

___	FIR 111	Introduction to Fire Protection	3 credits
___	FIR 113	Fundamentals of Fire Prevention	3 credits
___	FIR 150	Fire Investigation	3 credits
___	FIR 157	Leadership and Command	3 credits
___	FIR 159	Building Construction	3 credits
___	FIR 253	Firefighting Tactics and Strategy	3 credits
___	FIR 260	Juvenile Fire Awareness	3 credits
___	FIR 261	Fire Hydraulics	3 credits
___	FIR 263	Fire Protection Systems and Equipment	3 credits

PROGRAM ELECTIVES

Six credits of program electives or FIR 170 and FIR 171 taken in sequence

___	ELECTIVE		3 credits
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Choose from CRJ 101, CRJ 221, CRJ 256; FIR 254, FIR 255, FIR 158

___	ELECTIVE		3 credits
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Choose from CRJ 101, CRJ 221, CRJ 256; FIR 254, FIR 255, FIR 158

___	FIR 170	Emergency Care I	4 credits
___	FIR 171	Emergency Care II	4 credits

RECOMMENDED COURSE SEQUENCE

SEMESTER	COURSE
FALL SEMESTER 1	HST 111 or HST 113; MTH 111 or MTH 141; ENG 101; FIR 111; FIR 150
SPRING SEMESTER 2	HST 112 or HST 114; PSY 101 or SOC 101; ELECTIVE - Lab Science; ENG 102; FIR 113
FALL SEMESTER 3	FIR 159; FIR 260; FIR 261; FIR 263; COM 101
SPRING SEMESTER 4	FIR 170/FIR 171 or Program electives (2); ELECTIVE - Technical Literacy; FIR 157; FIR 253

Division 5 {V}

Mathematics, Science, and Engineering

Degree offered

Associate in Arts or Associate in Science in General Studies
(Technical Studies)

Credits required 60

DEAN EXT. 2417
Phoebe Blackburn

PROGRAM CONTACT EXT. 2408
Carol Martin, Coordinator of General Studies and Professor of Office Administration

PROGRAM GOALS STATEMENT

The Technical Studies program provides students with the skills and workplace requirements of a broad selection of technical areas and facilitates internal transfer to a BCC technical program. The program provides a broad technology-based degree for students who wish to diversify their technical background.

STUDENT LEARNING OUTCOMES (see page 160)

PROGRAM INFORMATION

All electives should be approved by the student's advisor. Students may choose Cooperative Education (CED) as an elective.

AFTER BCC

If you plan to transfer to a four-year institution, visit the Transfer Affairs Web site at www.BristolCC.edu/transfer

General Studies, Technical Studies

TRANSFER PROGRAM

GENERAL COURSES

___	COM 101	Fundamentals of Public Speaking	3 credits
___	ENG 101	Composition I: College Writing	3 credits
___	ENG 102	Composition II: Writing about Literature	3 credits

Choose one

___	HST 111	The West and the World I	3 credits
___	HST 112	The West and the World II	3 credits
___	HST 113	United States History to 1877	3 credits
___	HST 114	United States History from 1877	3 credits

Choose one

___	SOC 101	Principles of Sociology	3 credits
___	SOC 212	The Sociology of Social Problems	3 credits
___	SOC 252	The Sociology of Human Relations	3 credits

ELECTIVE COURSES

___	ELECTIVE	Multicultural Perspective	3 credits
<i>Choose from ENG 217, ENG 257, ENG 259, HST 114, HST 252, HST 259, HST 265, HUM 254</i>			
___	ELECTIVE	Quantitative/Symbolic Reasoning	3-4 credits
___	ELECTIVE	Science	3-4 credits

CAD 101, CIS 120, and EGR 103 (Choose one)

___	ELECTIVE	Technical Literacy	0-3 credits
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Waived for students who have successfully completed two (2) online courses

PROGRAM ELECTIVES

Consults with your advisor to select college-level technical courses to achieve a total of at least 60 credits

___ ELECTIVE(S) as required
Choose from any of the following courses, provided the prerequisite has been met: ACC, BIO, BUS, CAD, CIS, CIT, CED, CUL, ECN, EGR, HLT, MAN, MAR, MTH, MTK, OFC, OFP, PHY, RES, RMN, SCI, COM 102, ENG 215, GLG 101, CHM 111 or higher, SSC 101, and SSC 217

RECOMMENDED COURSE SEQUENCE

SEMESTER	COURSE
FALL SEMESTER 1	Elective; HST 111, HST 112, HST 113, or HST 114; Technical Elective; ELECTIVE - Quantitative/Symbolic Reasoning; ENG 101
SPRING SEMESTER 2	Elective; SOC 101, SOC 212, or SOC 252; ELECTIVE - Multicultural Perspective; ELECTIVE - Science;
FALL SEMESTER 3	Electives; COM 101
SPRING SEMESTER 4	Electives

Division 5 {V}

Mathematics, Science, and Engineering

Degree offered

Associate in Liberal Arts & Sciences
(Biotechnology/Biomedical Technology)

Credits required 62/66

DEAN EXT. 2124
Joanne Preston

PROGRAM CONTACT EXT. 2771
Robert Rak, Coordinator and Professor of Environmental
Technology

PROGRAM GOALS STATEMENT

This program is designed to provide the student with the biological and chemical background to seek employment as a lab technician in some biotechnology/biomedical sectors.

STUDENT LEARNING OUTCOMES (see page 160)

PROGRAM INFORMATION

Students needing additional courses to fill out a light schedule might want to consider the following courses that do not apply to the degree but will enhance their knowledge because of their relevancy to the Biomedical/Biotechnology field: BIO 241, MED 205, MTH 251, or MTH 252

AFTER BCC

If you plan to transfer to a four-year institution, visit the Transfer Affairs Web site at www.BristolCC.edu/transfer

Liberal Arts & Sciences, Biotechnology/Biomedical Technology

TRANSFER PROGRAM

GENERAL COURSES

___	COM 101	Fundamentals of Public Speaking	3 credits
___	ENG 101	Composition I: College Writing	3 credits
___	ENG 102	Composition II: Writing about Literature	3 credits
___	ENG 215	Technical Writing	3 credits
___	MTH 119	Fundamental Statistics	3 credits

Choose one

___	HST 111	The West and the World I	3 credits
___	HST 112	The West and the World II	3 credits
___	HST 113	United States History to 1877	3 credits
___	HST 114	United States History from 1877	3 credits

Choose one

___	SOC 101	Principles of Sociology	3 credits
___	SOC 212	The Sociology of Social Problems	3 credits
___	SOC 252	The Sociology of Human Relations	3 credits

ELECTIVE COURSES

___	ELECTIVE	Multicultural Perspective	3 credits
<i>Choose from HST 114, HST 252, HST 259, HST 265, ENG 217, ENG 257, ENG 259, HUM 254</i>			
___	ELECTIVE	Technical elective	3-4 credits

PROGRAM COURSES

___	BIO 121	Fundamentals of Biological Science I	4 credits
___	BIO 126	Introduction to Biotechnology	3 credits
___	BIO 239	Elements of Microbiology	4 credits
___	BIO 240	Cell Biology	4 credits
___	CED 210	Cooperative Work Experience I	3 credits
___	CHM 113	Fundamentals of Chemistry I	4 credits
___	CHM 114	Fundamentals of Chemistry II	4 credits
___	CHM 116	Organic and Biochemistry	4 credits
___	CHM 225	Biochemistry	4 credits
___	CHM 226	Chemistry of Nucleic Acids	4 credits

RECOMMENDED COURSE SEQUENCE

SEMESTER	COURSE
FALL SEMESTER 1	BIO 121; BIO 126; CHM 113; ENG 101; MTH 119
SPRING SEMESTER 2	HST; BIO 239; CHM 114; ENG 102; COM 101
FALL SEMESTER 3	ELECTIVE - Multicultural Perspective; HST; BIO 240; CHM 116; ENG 215
SPRING SEMESTER 4	SOC 101 or SOC 212 or SOC 252; CED 210; CHM 225; CHM 226; ELECTIVE - Technical elective

Division 5 {V}

Mathematics, Science, and Engineering

Degree offered

Associate in Arts in Liberal Arts & Sciences
(Environmental Science Transfer Concentration)

Credits required 61/67

DEAN EXT. 2124
Joanne Preston

PROGRAM CONTACT EXT. 2199
Robert Caron, Coordinator of Environmental Science and
Professor of Biology

PROGRAM GOALS STATEMENT

This program meets the requirements of the MassTransfer policy. Community college students who graduate from the Environmental Science program receive the benefit of full transfer and applicability of credit, guaranteed admission, and a tuition discount at any Massachusetts state college or university. Each benefit is based on the student's final grade point average.

STUDENT LEARNING OUTCOMES (see page 160)

PROGRAM INFORMATION

Get started on math courses immediately, particularly if you need developmental work. Choose electives with the help of the program director.

AFTER BCC

BCC participates in the statewide MassTransfer program and has developed many program-to-program transfer articulation agreements which guarantee admission and credit transfer. For a complete listing of eligible MassTransfer programs and current BCC articulation agreements, visit the Transfer Affairs Web site at www.BristolCC.edu/transfer

Liberal Arts & Sciences, Environmental Science

TRANSFER PROGRAM

GENERAL COURSES

___	BIO 121	Fundamentals of Biological Science I	4 credits
___	BIO 122	Fundamentals of Biological Science II	4 credits
___	CHM 113	Fundamentals of Chemistry I	4 credits
___	CHM 114	Fundamentals of Chemistry II	4 credits
___	COM 101	Fundamentals of Public Speaking	3 credits
___	ENG 101	Composition I: College Writing	3 credits
___	ENG 102	Composition II: Writing about Literature	3 credits
___	SCI 112	Principles of Ecology	4 credits

Choose one

___	HST 111	The West and the World I	3 credits
___	HST 112	The West and the World II	3 credits
___	HST 113	United States History to 1877	3 credits

Choose two

___	MTH 119	Fundamental Statistics	3 credits
___	MTH 171	Elementary Functions	3 credits
___	MTH 173	Trigonometry	2 credits
___	MTH 214	Calculus I	4 credits
___	MTH 215	Calculus II	4 credits

Choose one

___	SOC 101	Principles of Sociology	3 credits
___	SOC 212	The Sociology of Social Problems	3 credits
___	SOC 252	The Sociology of Human Relations	3 credits

ELECTIVE COURSES

___	ELECTIVE	Multicultural Perspective	3 credits
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Choose from HST 114, HST 252, HST 259, HST 265, ENG 217, ENG 257, ENG 259, HUM 254

___	ELECTIVE	Technical Literacy	0-3 credits
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Choose from CIS 110, CIS 111; EGR 103 - waived for students who have successfully completed two online courses

Choose from SSC 217, SSC 101, GVT 111, ECN 111, ECN 112

___	ELECTIVE	Behavioral/Social Science	3 credits
___	ELECTIVE	Behavioral/Social Science	3 credits

PROGRAM ELECTIVES

Choose from BIO 129, BIO 130, BIO 232, BIO 239, CHM 120, EGR 141, EGR 245, GLG 101, PHY 101, PHY 102, SCI 119, SCI 132

___	ELECTIVE	Restricted	3-4 credits
___	ELECTIVE	Restricted	3-4 credits
___	ELECTIVE	Restricted	3-4 credits

RECOMMENDED COURSE SEQUENCE

SEMESTER	COURSE
FALL SEMESTER 1	HST; BIO 121; CHM 113; ENG 101; SCI 112
SPRING SEMESTER 2	Elective - Technical Literacy; MTH; BIO 122; CHM 114; ENG 102
FALL SEMESTER 3	ELECTIVE - Behavioral/Social Science; ELECTIVE - Multicultural Perspective; MTH; SOC 101 or SOC 212 or SOC 252; COM 101
SPRING SEMESTER 4	ELECTIVE - Behavioral/Social Science; Program Electives (3)

Division 5 {V}

Mathematics, Science, and Engineering

Degree offered

Associate in Arts in Liberal Arts & Sciences
(Math & Science Option)

Credits required 60

DEAN EXT. 2124
Joanne Preston

PROGRAM CONTACT EXT. 2508
Deborah Lawton, Coordinator of Liberal Arts and Sciences
and Professor of English

PROGRAM GOALS STATEMENT

The Liberal Arts and Sciences program provides a comprehensive and rigorous foundation for transfer to a Bachelor of Arts or Science degree in the liberal arts disciplines or to professional studies in education, law or medicine. The program values lifelong learning for success of the individual as well as the community.

STUDENT LEARNING OUTCOMES (see page 160)

PROGRAM INFORMATION

Academic and transfer advisors assist students in selecting courses to fulfill program requirements and general education requirements at senior institutions to ensure a smooth transfer.

RECOMMENDATIONS

Take RDG 080 or RDG 090 in the first semester if required and meet prerequisites for English and math courses as soon as possible. See course descriptions for details.

Lab science courses may also require a year of high school lab science or CHM 090 as a prerequisite.

AFTER BCC

BCC participates in the statewide MassTransfer program and has developed many program-to-program transfer articulation agreements which guarantee admission and credit transfer. For a complete listing of eligible MassTransfer programs and current BCC articulation agreements, visit the Transfer Affairs Web site at www.BristolCC.edu/transfer

Liberal Arts & Sciences, Math and Science Option

TRANSFER PROGRAM

GENERAL COURSES

___COM 101	Fundamentals of Public Speaking	3 credits
___ENG 101	Composition I: College Writing	3 credits
___ENG 102	Composition II: Writing about Literature	3 credits

Choose one

___HST 111	The West and the World I	3 credits
___HST 113	United States History to 1877	3 credits

Choose one

___HST 112	The West and the World II	3 credits
___HST 114	United States History from 1877	3 credits

Choose two

___MTH 171	Elementary Functions	3 credits
___MTH 173	Trigonometry	3 credits
___MTH 214	Calculus I	4 credits
___MTH 215	Calculus II	4 credits

ELECTIVE COURSES

___ELECTIVE	Global Awareness	3 credits
<i>Choose from SOC 101, SOC 212, SOC 252; SSC 217</i>		

___ELECTIVE	Multicultural Perspective	0-3 credits
<i>May be met by Behavioral/Social Science</i>		

___ELECTIVE	Technical Literacy	0-3 credits
<i>Choose from CIS 110, CAD 101, or EGR 103 - waived for students who have successfully completed at least two online courses</i>		

Choose courses from list on page 30

___ELECTIVE	Behavioral/Social Science	3 credits
___ELECTIVE	Behavioral/Social Science	3 credits
___ELECTIVE	Lab Science	4 credits
___ELECTIVE	Lab Science	4 credits

Choose two 4-credit math and science electives. Work closely with an advisor to determine which courses are most useful to your career/transfer goals:

___ELECTIVE	Math and Science	4 credits
___ELECTIVE	Math and Science	4 credits

PROGRAM ELECTIVES

Choose electives as needed from any of the lists of approved courses on page 30. Select electives to meet the general education and program guidelines of the desired transfer school(s)

___ELECTIVE(S)	as required
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RECOMMENDED COURSE SEQUENCE

SEMESTER	COURSE
FALL SEMESTER 1	Elective - Math; HST 111 or HST 113; ELECTIVE - Behavioral/Social Science; ENG 101; COM 101
SPRING SEMESTER 2	Elective - Math; HST 112 or HST 114; ELECTIVE - Behavioral/Social Science; ELECTIVE - Lab Science; ENG 102
SUMMER	Any Liberal Arts program courses for which prerequisites have been met. Summer courses will reduce fall and spring semester course loads.
FALL SEMESTER 3	Elective - Global Awareness; Elective - Technical Literacy; MTH or Lab Science Restricted Elective; ELECTIVE - Lab Science; ELECTIVE - Multicultural Perspective
SPRING SEMESTER 4	Electives as needed to complete 60 credits; MTH or Lab Science Restricted Elective

Engineering Science Disciplines

To choose the best electives for your career interests, consider the descriptions of the various disciplines and match your choices to the recommendation. When in doubt, speak to an advisor.

CIVIL & ENVIRONMENTAL ENGINEERING

Plan, design, build, inspect and maintain a wide variety of facilities including bridges, roads and highways, industrial manufacturing, sanitation, water and wastewater treatment facilities. Civil engineers plan construction costs and materials, prepare drawings, and survey land. Environmental engineers are involved with recycling and the prevention, control, or correction of pollution and other environmental hazards.

Recommended electives for UMD:

CAD 128 Civil Drafting & Design
 CHM114 Fund. of Chemistry II
 EGR 231/233 Electrical Engineering I w/ Lab
 EGR 251/253 Statics w/Advanced Statics
 EGR 221 Surveying I
 EGR 222 Surveying II

MECHANICAL ENGINEERING

Perhaps the broadest of all engineering disciplines, mechanical engineering is generally combined into three areas: energy, structures and motion in mechanical systems, and manufacturing used in combination to design, develop, test, and manufacture industrial machinery, consumer products, and other equipment.

Recommended electives for UMD:

CAD111 Advanced Computer-Aided Design I
 CHM114 Fund. of Chemistry II
 EGR 231/233 Electrical Engineering I w/ Lab
 EGR 232/234 Electrical Engineering II w/Lab
 EGR 251/253 Statics w/Advanced Statics
 EGR 172 Material Science

ELECTRICAL & COMPUTER ENGINEERING

Design, develop, test, manufacture, and operate electrical and electronic equipment such as communication equipment, radar, industrial and medical measuring or process control devices, navigational equipment, computers, and computer networks. Computer engineers work on both computer hardware and software (programming) problems.

Recommended electives for UMD:

CIS 260 Software Specification and Design
 CIS 158 Introduction to Procedural Programming
 EGR 131 Electrical Circuits I
 EGR 137 Digital Computer Fundamentals
 EGR 231/233 Electrical Engineering I w/ Lab
 EGR 232/234 Electrical Engineering II w/Lab

OTHER ENGINEERING DISCIPLINES

Students in this program can prepare themselves to continue their degree at a variety of transfer institutions in the engineering discipline of their choice including:

Aerospace & Automotive
 Biomedical & Biotechnology
 Chemical and Petroleum
 Industrial & Facilities
 Materials & Biomaterials

To ensure transferability, consult with your advisor, applicable transfer agreements, and/or transfer institutions before selecting electives.

CERTIFICATES

Applied Construction Technology

CERTIFICATE PROGRAM

Degree offered

Certificate of Accomplishment in Applied Construction Technology

Credits required 20/21

DEAN EXT. 2214
Peter Schuyler

PROGRAM CONTACT EXT. 2746
Eileen Young, Department Chair and Professor of Engineering and Technology

PROGRAM GOALS STATEMENT

This certificate introduces students to the construction profession and provides them with the applied technical skills necessary for employment as construction technicians or to direct a construction project. Students learn the process of constructing a building from the ground to finish, develop an in-depth working knowledge of construction estimating techniques, and gain practical experience in preparing working drawings for building construction. Due to the greater use of CAD equipment by architects and engineers, as well as drafters, students also develop drafting techniques using computer-aided design and drafting software, including AutoCAD.

PROGRAM INFORMATION

Certificate courses can apply to BCC's Structural Technology and Civil Technology degree programs. Students may earn this certificate and the degree simultaneously.

Students interested in transferring to a Bachelor degree program in Engineering should select MTH 171 and MTH 173.

GENERAL COURSES

__CAD 101	Computer Aided Drafting	3 credits
__CAD 122	Architectural Drawing	3 credits
__EGR 123	Construction Methods and Materials	4 credits
__EGR 125	Construction Estimating	3 credits
__ENG 101	Composition I: College Writing	3 credits
<i>Choose MTH 171 and MTH 173 OR MTH 141</i>		
__MTH 141	Technical Mathematics I	4 credits
__MTH 171	Elementary Functions	3 credits
__MTH 173	Trigonometry	2 credits

RECOMMENDED COURSE SEQUENCE

Fall Semester 1

MTH 141 or MTH 171/MTH 173; CAD 101; EGR 125

Spring Semester 2

CAD 122; EGR 123; ENG 101

Applied Manufacturing

CERTIFICATE PROGRAM

Degree offered

Certificate of Recognition in Applied Manufacturing

Credits required 13

DEAN EXT. 2214
Peter Schuyler

PROGRAM CONTACT EXT. 2248
Mary Cass, Coordinator and Associate Professor of Automation Technology

PROGRAM GOALS STATEMENT

Students learn to use standard machine-shop equipment and operate and program CNC machinery to become manufacturing technicians. Students also understand the materials to be processed and technical drawing through the use of AutoCAD.

PROGRAM INFORMATION

This program serves as a solid base for continuing on toward a degree, with all courses transferring to BCC's Automation, Electro-Mechanical, and Mechanical Technology programs

This program utilizes BCC's NSF-funded Computer-Integrated Manufacturing (CIM) Laboratory facility, utilizing typical industrial CNC machining centers.

Students must have previously completed algebra II and geometry before enrolling in certificate courses.

PROGRAM COURSES

__CAD 101	Computer Aided Drafting	3 credits
__EGR 111	Fundamentals of Manual Machining	3 credits
__EGR 112	Automated Machining	3 credits
__EGR 172	Material Science	4 credits

RECOMMENDED COURSE SEQUENCE

Fall Semester 1

CAD 101; EGR 111

Spring Semester 2

EGR 112; EGR 172

Biotechnology

CERTIFICATE PROGRAM

Degree offered

Certificate of Achievement in Biotechnology

Credits required 28

DEAN EXT. 2214
Peter Schuyler

PROGRAM CONTACT EXT. 2771
Robert Rak, Coordinator and Professor of Environmental Technology

PROGRAM GOALS STATEMENT

Learn the essential knowledge and develop lab skills for entry-level biotech positions, including setting up sample analysis, maintaining automated instruments, and preparing materials for research scientists.

PROGRAM INFORMATION

Massachusetts is a national leader in biotechnology and needs well-trained workers for this growing field.

PROGRAM COURSES

__BIO 121	Fundamentals of Biological Science I	4 credits
__BIO 126	Introduction to Biotechnology	3 credits
__BIO 240	Cell Biology	4 credits
__CED 210	Cooperative Work Experience I	3 credits
__CHM 116	Organic and Biochemistry	4 credits
__ENG 101	Composition I: College Writing	3 credits
__MTH 119	Fundamental Statistics	3 credits
<i>Choose one</i>		
__BIO 239	Elements of Microbiology	4 credits
__CHM 225	Biochemistry	4 credits
__CHM 226	Chemistry of Nucleic Acids	4 credits

RECOMMENDED COURSE SEQUENCE

Fall Semester 1

BIO 121; BIO 126; ENG 101

Spring Semester 2

BIO 240; CHM 116; MTH 119

Fall Semester 3

BIO 239 or CHM 225 or CHM 226; CED 210

Computer Aided Design and Drafting

CERTIFICATE PROGRAM

Degree offered

Certificate of Recognition in Computer Aided Design and Drafting

Credits required 12

DEAN EXT. 2214
Peter Schuyler

PROGRAM CONTACT EXT. 2746
Eileen Young, Department Chair and Professor of Engineering and Technology

PROGRAM GOALS STATEMENT

This one-year certificate program provides students with the needed skills to become a professional computer-aided architectural draftsman, civil draftsman, mechanical designer, or manufacturing operator in the engineering industry. Students learn fundamental concepts of engineering drawing through advanced computer-aided design techniques.

PROGRAM INFORMATION

This program serves as a solid base for advanced work in a degree program, with all courses transferring to BCC's Automation, Civil, Electro-Mechanical, Environmental, Mechanical, and Structural Technology programs.

Students utilize high-tech computer equipment and the latest AutoDesk, SolidWorks, and/or CAM software.

CORE COURSES

__CAD 101 Computer Aided Drafting 3 credits

CONCENTRATION COURSES

Architectural/Civil (Complete all three courses)

__CAD 122 Architectural Drawing 3 credits
__CAD 125 3D Architecture, Building, and Landscape Design 3 credits
__CAD 128 Civil Drafting and Design 3 credits

Mechanical/Manufacturing (Choose 3 courses)

__CAD 111 Advanced Computer Aided Design 3 credits
__CAD 112 Advanced Computer Aided Design II 3 credits
__CAD 172 Computer Aided Mechanical Design 3 credits
__CAD 211 Computer Aided Manufacturing 3 credits

RECOMMENDED COURSE SEQUENCE

Fall Semester 1

CAD 101

Spring Semester 2

Architectural/Civil: CAD 122 or CAD 125 or CAD 128; Mechanical/Manufacturing: CAD 172 or CAD 111

Fall Semester 3

Architectural/Civil: CAD 122 or CAD 125 or CAD 128; Mechanical/Manufacturing: CAD 111 or CAD 112

Spring Semester 4

Architectural/Civil: CAD 122 or CAD 125 or CAD 128; Mechanical/Manufacturing: CAD 112 or CAD 211

AFTER BCC

Graduates are prepared for positions as architectural and civil CAD operators/drafters and mechanical designers.

Fire Investigation Specialist CERTIFICATE PROGRAM

Degree offered

Certificate of Achievement in Fire Investigation Specialist

Credits required 27

DEAN EXT. 2214
Peter Schuyler

PROGRAM CONTACT EXT. 3789
Stephen Rivard, Coordinator of Fire Science Technology

PROGRAM GOALS STATEMENT

This certificate program trains fire, police, and insurance industry personnel in the latest fire investigation practices. It prepares students to determine the origin and cause of fires as well as the legal aspects of prosecuting an arson case.

PROGRAM INFORMATION

Graduates have joined fire departments and insurance companies as fire investigators and fire inspectors.

Courses transfer to the Fire Science Technology degree program.

After completing this certificate program, a student is qualified for assignment to the Fire Prevention Bureau.

PROGRAM COURSES

__COM 101	Fundamentals of Public Speaking	3 credits
__CRJ 221	Juvenile Offenders	3 credits
__CRJ 256	Criminal Investigation	3 credits
__ENG 101	Composition I: College Writing	3 credits
__FIR 150	Fire Investigation	3 credits
__FIR 159	Building Construction	3 credits
__FIR 254	Report Writing	3 credits
__FIR 255	Related Fire Codes and Ordinances	3 credits
__PSY 101	General Psychology	3 credits

RECOMMENDED COURSE SEQUENCE

Fall Semester 1

ENG 101; FIR 150; FIR 159

Spring Semester 2

CRJ 256; COM 101

Fall Semester 3

FIR 255; PSY 101

Spring Semester 4

CRJ 221; FIR 254

Fire Prevention Specialist CERTIFICATE PROGRAM

Degree offered

Certificate of Achievement in Fire Prevention Specialist

Credits required 27

DEAN EXT. 2214
Peter Schuyler

PROGRAM CONTACT EXT. 2746
Stephen Rivard, Coordinator of Fire Science Technology

PROGRAM GOALS STATEMENT

This certificate program provides training to students in proper fire inspection practices and fire code enforcement.

PROGRAM COURSES

__COM 101	Fundamentals of Public Speaking	3 credits
__ENG 101	Composition I: College Writing	3 credits
__FIR 111	Introduction to Fire Protection	3 credits
__FIR 113	Fundamentals of Fire Prevention	3 credits
__FIR 158	Plans Review and Building Codes	3 credits
__FIR 159	Building Construction	3 credits
__FIR 254	Report Writing	3 credits
__FIR 255	Related Fire Codes and Ordinances	3 credits
__FIR 263	Fire Protection Systems and Equipment	3 credits

RECOMMENDED COURSE SEQUENCE

Fall Semester 1

ENG 101; FIR 111; FIR 113

Spring Semester 2

FIR 254; FIR 263

Fall Semester 3

FIR 159; COM 101

Spring Semester 4

FIR 158; FIR 255

Geographic Information Systems CERTIFICATE PROGRAM

Degree offered

Certificate of Recognition in Geographic Information Systems

Credits required 12

DEAN EXT. 2214
Peter Schuyler

PROGRAM CONTACT EXT. 2771
Robert Rak, Coordinator and Professor of Environmental Technology

PROGRAM GOALS STATEMENT

Geographic Information Systems (GIS) provides a powerful tool in any academic discipline to analyze relationships among data. It is commonly used in business, environmental, geographical, political, law enforcement, and social science applications.

PROGRAM INFORMATION

This certificate introduces students to GIS and provides them with the skills necessary to layer various types of data in an electronic format and to study and identify relationships among the data.

This program serves as a solid base for continuing toward a degree with courses transferring to BCC's Environmental Technology program.

PROGRAM COURSES

__EGR 103	Computer Skills for Engineers and Technicians	3 credits
__GIS 101	Introduction to Geographic Information Systems	3 credits
__GIS 102	Applications of Geographic Information Systems	3 credits
__SSC 101	Introduction to Geography	3 credits

RECOMMENDED COURSE SEQUENCE

Fall Semester 1

GIS 101; SSC 101

Spring Semester 2

EGR 103; GIS 102

Marine Trades CERTIFICATE PROGRAM

Degree offered

Certificate of Accomplishment in Marine Trades

Credits required 19

DEAN EXT. 2214
Peter Schuyler

PROGRAM CONTACT EXT. 2771
Robert Rak, Coordinator and Professor of Environmental Technology

PROGRAM GOALS STATEMENT

This program (offered in partnership with the Massachusetts Marine Trades Association) is designed to familiarize students with the marine industry and provide the skills required for a career in or career change to the boating and marine trades, including marine business management or marine sales.

PROGRAM INFORMATION

Students gain hands-on experience with servicing and installing marine systems (inboard and outboard engines, ignition, fuel, and ventilation).

Some courses in this program are available only in the evening and/or at satellite locations. Many courses are offered in the summer.

EGR 162 and many marine industry careers require good physical health and the ability to swim. Students with issues in this area should discuss them with the program director before enrollment.

PROGRAM COURSES

__EGR 161	Introduction to the Marine Industry	3 credits
__EGR 162	Marine Safety	1 credit
__EGR 261	Marine Systems	4 credits
__EGR 265	Marine Outboard Motors	4 credits
__EGR 266	Marine Inboard Motors	4 credits
__ENG 101	Composition I: College Writing	3 credits

RECOMMENDED COURSE SEQUENCE

Fall Semester 1

EGR 161

Spring Semester 2

EGR 162; ENG 101

Fall Semester 3

EGR 261; EGR 265

Spring Semester 4

EGR 266

Organic Agriculture Technician CERTIFICATE PROGRAM

Degree offered

Certificate of Achievement in Organic Agriculture Technician

Credits required 29

DEAN EXT. 2214
Peter Schuyler

PROGRAM CONTACT EXT. 3047
James Corven, Professor of Biology

PROGRAM GOALS STATEMENT

Gain the academic knowledge and practical skills to enter the expanding world of organic agriculture and technology. The program is for those with an appreciation for the natural world, ecology, human health and welfare, and a spirit of entrepreneurship.

PROGRAM INFORMATION

The program addresses the growing need to make food and agriculture production more local, sustainable, and ecologically sound.

Students learn business and technical skills to pursue an organic agricultural enterprise.

Hands-on experience gives students practical skills,

Graduates may develop production, research, and extension networking systems through the Northeastern Organic Farmers Association (NOFA) or pursue private, public, and/or cooperative organic growing enterprises.

PROGRAM COURSES

__ENG 101	Composition I: College Writing	3 credits
__OFP 114	Organic Farming Practices I	4 credits
__OFP 115	Organic Farming Practices II	4 credits
__OFP 116	Water Acquisition and Conservation	2 credits
__OFP 217	Organic Farming and Practices Practicum I	2 credits
__OFP 218	Organic Farming and Practices Practicum II	4 credits
__OFP 219	Organic Farming and Practices Practicum III	2 credits
__SCI 115	Science and Care of Plants	4 credits
__SOC 216	Food, Famine, and Farming in the Global Village	3 credits

Choose one

__OFP 120	Solar Greenhouse Production	1 credit
__OFP 122	Natural Beekeeping Practices	1 credit
__OFP 123	Pest and Disease Control	1 credit

RECOMMENDED COURSE SEQUENCE

Fall Semester 1

ENG 101; OFP 114; SCI 115; SOC 216

Spring Semester 2

OFP 120 or OFP 122 or OFP 123; OFP 115; OFP 116; OFP 217

Summer

OFP 218

Fall Semester 3

OFP 219

AFTER BCC

Graduates may pursue a bachelor's degree in Organic Agriculture at Washington State University or pursue studies and/or research at the Rodale Institute.

Surveying CERTIFICATE PROGRAM

Degree offered

Certificate of Achievement in Surveying

Credits required 24/25

DEAN EXT. 2214
Peter Schuyler

PROGRAM CONTACT EXT. 2746
Eileen Young, Department Chair and Professor of Engineering and Technology

PROGRAM GOALS STATEMENT

Surveying is the art, science, and technology of determining or establishing the position of points through field measurements. This certificate program introduces students to the surveying profession and provides them with the basic skills necessary to obtain employment as surveying technicians.

PROGRAM INFORMATION

Certificate courses can apply to BCC's Architectural and Structural Technology and Civil Technology degree programs. Students may earn this certificate and the degree simultaneously.

The program is suitable for individuals wishing to enter the surveying profession, as well as for practicing surveyors who may lack formal education. Most courses are transferable to many two- and four-year degree programs.

MTH 141 or MTH 171 and MTH 173 are prerequisites for EGR 221.

PROGRAM COURSES

__CAD 101	Computer Aided Drafting	3 credits
__CAD 128	Civil Drafting and Design	3 credits
__EGR 125	Construction Estimating	3 credits
__EGR 221	Surveying	4 credits
__EGR 222	Surveying II	4 credits
__ENG 101	Composition I: College Writing	3 credits

Choose MTH 171 and MTH 173 OR MTH 141

__MTH 141	Technical Mathematics I	4 credits
__MTH 171	Elementary Functions	3 credits
__MTH 173	Trigonometry	2 credits

RECOMMENDED COURSE SEQUENCE

Fall Semester 1

CAD 101, EGR 125, EGR 221, MTH 141 (or MTH 171 and MTH 173)

Spring Semester 2

CAD 128, EGR 222, ENG 101

Water Quality Professional CERTIFICATE PROGRAM

Degree offered

Certificate of Recognition in Water Quality Professional

Credits required 13

DEAN EXT. 2214
Peter Schuyler

PROGRAM CONTACT EXT. 2771
Robert Rak, Coordinator and Professor of Environmental Technology

PROGRAM GOALS STATEMENT

This certificate provides students with skills for entering careers in water and wastewater treatment. Coursework prepares students for the Massachusetts operator certification examinations or can be used as contact hours by those already in the field. Courses can be transferred to the Engineering Technology degree program.

PROGRAM INFORMATION

Students choose the Drinking Water or Wastewater option for preparation for the certificate exam of their choice.

Field operators may use coursework to fulfill state license Training Contact Hours (TCHs) requirements.

Some prerequisites may be required before enrolling in courses in this program. These courses may be completed at BCC, or credit may be transferred from another institution or granted through BCC's Prior Experiential Learning (PEL) program.

This program serves as a solid base for continuing toward a degree with courses transferring to BCC's Environmental Technology program.

PROGRAM COURSES

__EGR 103	Computer Skills for Engineers and Technicians	3 credits
__EGR 141	Introduction to Environment	3 credits
__EGR 241	Wastewater Technology I	3 credits

Drinking Water Treatment Plant Operator

__EGR 244	Water Supply and Hydrology	4 credits
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Wastewater Treatment Plant Operator

__EGR 242	Wastewater Technology II	4 credits
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RECOMMENDED COURSE SEQUENCE

Fall Semester 1

EGR 141; EGR 241

Spring Semester 2

EGR 242 or EGR 244; EGR 103

