



ENGINEERING GRAPHICS TECHNOLOGY

ASSOCIATE IN APPLIED SCIENCE

Your Butler experience will prepare you to apply advanced computer-aided design CAD skills to the creation of graphic representations and simulations in support of architectural and engineering projects with the aid of CAD. This program includes instruction in engineering graphics, two-dimensional and three-dimensional design, solid modeling, residential design, and commercial design.

First Semester (Fall)		15
<input type="checkbox"/> English Comp. I	EG 101	3
<input type="checkbox"/> Trigonometry	MA 140	3
<input type="checkbox"/> Networking Basics	IN 134	3
<input type="checkbox"/> Auto CAD Basics	EN 107	3
<input type="checkbox"/> Related Elective		3
Second Semester (Spring)		16
<input type="checkbox"/> English Comp II*	EG 102	3
<input type="checkbox"/> General Physics*	PH 143	5
<input type="checkbox"/> Engineering Graphics I*	EN 101	3
<input type="checkbox"/> Engineering Concepts	EN 115	2
<input type="checkbox"/> AutoCAD Advanced*2	EN 207	3
Third Semester (Fall)		18
<input type="checkbox"/> Ethics	PL 291	3
<input type="checkbox"/> Public Speaking	SP 100	3
<input type="checkbox"/> Engineering Graphics II*	EN 102	3
<input type="checkbox"/> Related Electives		9
Fourth Semester (Spring)		15
<input type="checkbox"/> Residential Design & CAD*2	EN 103	3
<input type="checkbox"/> Engineering Graphics Tech Capstone*	EN 206	3
<input type="checkbox"/> 3D Modeling & CAD*2	EN 214	3
<input type="checkbox"/> Internship		3
<input type="checkbox"/> Related Elective		3
Related Electives		
<input type="checkbox"/> Introduction to Surveying ¹	SR 104	3
<input type="checkbox"/> Surveying II*	SR 204	3
<input type="checkbox"/> Commercial Building Design & CAD* ₁	EN 211	3
<input type="checkbox"/> Structural, Civil and Pipe Design & CAD* ₁	EN 217	3
<input type="checkbox"/> Introduction to Quality Assurance	IT 260	3
<input type="checkbox"/> Statics*	EN 260	3

Any Engineering course not listed under required or any Manufacturing Technology course.

NOTE: (*) This course has pre-required course(s).

- (1) This course is only offered in the Fall semester
- (2) This course is only offered in the Spring semester.

A total of 64 credit hours are required for this degree. In addition to the 20 credit hours of general education requirements and 29 credit hours of required courses, 15 credit hours of related electives are required.

ENGINEERING GRAPHICS TECHNOLOGY

Career Program

Degree Offered: Associate In Applied Science

Credits Required: 64

Contact: Kara McCluskey, P.E., Lead Instructor, at 316.218.6343, or kmclusk@butlercc.edu

Accreditation

TAC/ABET, American Design & Drafting Association (ADDA)

Prior To Admission

Appropriate Placement Scores, See An Advisor For Details.

Additional Costs

Additional Lab Fee Is Assessed To Each Program Course And Subject To Change.

Median Wage

Salary/hourly rates are dependent on skill level, experience and location.

ENGINEERING GRAPHICS TECHNOLOGY**CERTIFICATE**

Your Butler experience will prepare you to apply advanced computer-aided design CAD skills to the creation of graphic representations and simulations in support of architectural and engineering projects. With the aid of CAD, this program includes instruction in engineering graphics, two-dimensional and three-dimensional design, solid modeling, residential and commercial design.

Prior to Admission

Appropriate placement scores, see an advisor for details.

		HOURS
Required Courses		32
<input type="checkbox"/> Engineering Graphics I*	EN 101	3
<input type="checkbox"/> Engineering Graphics II*	EN 102	3
<input type="checkbox"/> Residential Design and CAD I*	EN 103	3
<input type="checkbox"/> Engineering Concepts	EN 115	2
<input type="checkbox"/> Eng. Graphics Tech Capstone*	EN 206	3
<input type="checkbox"/> Commercial Building Design and CAD*	EN 211	3
<input type="checkbox"/> Structural, Civil and Pipe Design & CAD*	EN 217	3
<input type="checkbox"/> Math Requirement*	MA 114 or above	3
<input type="checkbox"/> Auto CAD Basics	EN 107	3
<input type="checkbox"/> Auto CAD Advanced*	EN 207	3
<input type="checkbox"/> 3D Modeling and CAD*	EN 214	3

NOTE: (*) This course has pre-required course(s).

Median Wage

Salary/hourly rates are dependent on skill level, experience and location.

CAD TECHNICIAN**Career Program**

Certificate Offered: Certificate in CAD Technician

Credits Required: 32

Contact: Kara McCluskey, P.E., Lead Instructor, at 316.3218.6343, or kmclusk@butlercc.edu

Accreditation

ADDA, TAC/ABET accreditation.

Recommended Course Sequence

AUTOCAD Basics EN 107 is required before upper level EN Courses. Due to pre-requisites, this certificate will take longer than two semesters to complete.

Additional Costs

Additional lab fee is assessed to each program course and subject to change.

COMPOSITE ENGINEERING TECHNOLOGY**ASSOCIATE IN APPLIED SCIENCE**

Your Butler experience will prepare you to apply basic engineering principles and technical skills in support of engineers and other professionals engaged in developing and using advanced materials and polymers in commercial manufacturing. Instruction will prepare students to design products via Catia and produce those products within a laboratory setting.

Prior to admission

Students are required to take the ASSET test. Students must score a minimum of 37 Reading, 35 Writing, and Numerical Math.

		HOURS
General Education Requirements		20
Communications		9
<input type="checkbox"/> English Comp I	EG 101	3
<input type="checkbox"/> Public Speaking	SP 100	3
<input type="checkbox"/> 1 additional course in communications		3
Science and Math		11
<input type="checkbox"/> College Algebra	MA 131 or above	3
<input type="checkbox"/> Applied Physics	PH 109	3
<input type="checkbox"/> Applied Chemistry	CH 105	5
Required Courses		44
<input type="checkbox"/> Industrial Safety*	IT 205	3
<input type="checkbox"/> Intro to Composites	IT 135	4
<input type="checkbox"/> Composites Manufacturing Practices	IT 136	4
<input type="checkbox"/> Beginning Concepts of CNC*	IT 120	3
<input type="checkbox"/> Machine Processes I*	IT 100	3
<input type="checkbox"/> Basic Catia*	IT 218	3
<input type="checkbox"/> Machine Processes II*	IT 102	3
<input type="checkbox"/> Composite Structure Repair	IT 235	4
<input type="checkbox"/> Adv. Techniques in Composites	IT 236	4
<input type="checkbox"/> Intro to Quality Assurance	IT 260	3
<input type="checkbox"/> Advanced Catia*	IT 219	3
<input type="checkbox"/> Intro Manufacturing and Material Science*	IT 226	3
<input type="checkbox"/> Any IT elective course or department consent		4

AAS Degree requires 64 credit hours.

NOTE: (*) This course has pre-required course(s).

COMPOSITE ENGINEERING TECHNOLOGY**Career Program**

Degree Offered: AAS in Composite Engineering Technology

Credits Required: 64

Contact: Rod Brown, Lead Instructor, at 316.218.6135, or rbrown34@butlercc.edu

COMPOSITE ENGINEERING TECHNOLOGY

MANUFACTURING AND COMPOSITES CERTIFICATE

Your Butler experience will prepare you to apply basic engineering principles and technical skills in support of engineers and other professionals engaged in developing and using advanced materials and polymers in commercial manufacturing. Instruction will prepare students to design products via Catia and produce those products within a laboratory setting.

Prior to admission

Students are required to take the ASSET test. Students must score a minimum of 37 Reading, 35 Writing, and Numerical Math.

			HOURS
Required Courses			
<input type="checkbox"/> Industrial Safety*	IT 205		3
<input type="checkbox"/> Intro to Composites	IT 135		4
<input type="checkbox"/> Composites Manufacturing Practices	IT 136		4
<input type="checkbox"/> Beginning Concepts of CNC*	IT 120		3
<input type="checkbox"/> Machine Processes I*	IT 100		3
<input type="checkbox"/> Basic Catia*	IT 218		3
<input type="checkbox"/> Machine Processes II*	IT 102		3
<input type="checkbox"/> Composite Structure Repair	IT 235		4
<input type="checkbox"/> Adv. Techniques in Composites	IT 236		4
<input type="checkbox"/> Intro to Quality Assurance	IT 260		3
<input type="checkbox"/> Advanced Catia*	IT 219		3

Certificate requires 37 credit hours.

NOTE: (*) This course has pre-required course(s).

COMPOSITE ENGINEERING TECHNOLOGY

Career Program

Certificate Offered: Certificate in Composite Engineering Technology

Credits Required: 37

Contact: Rod Brown, Lead Instructor, at 316.218.6135, or rbrown34@butlercc.edu

COMPOSITE ENGINEERING TECHNOLOGY

COMPOSITE TECHNICIAN CERTIFICATE

Your Butler experience will prepare you to apply basic engineering principles and technical skills in support of engineers and other professionals engaged in developing and using advanced materials and polymers in commercial manufacturing. Focuses on Composite Fabrication, Repair, Machining, Lay Up, and Basic Design.

Prior to admission

Students are required to take the ASSET test. Students must score a minimum of 37 Reading, 35 Writing, and Numerical Math.

			HOURS
Required Courses			
<input type="checkbox"/> Intro to Composites	IT 135		4
<input type="checkbox"/> Composites Manufacturing Practices	IT 136		4
<input type="checkbox"/> Composite Structure Repair	IT 235		4
<input type="checkbox"/> Adv. Techniques in Composites	IT 236		4

Certificate of Completion requires a total of 16 credit hours.

COMPOSITE ENGINEERING TECHNOLOGY

Career Program

Certificate Offered: Certificate of Completion in Composite Technician

Credits Required: 16

Contact: Rod Brown, Lead Instructor, at 316.218.6135, or rbrown34@butlercc.edu

MANUFACTURING ENGINEERING TECHNOLOGY**ASSOCIATE IN APPLIED SCIENCE**

Your Butler experience will prepare you to apply basic engineering principles and technical skills to the identification and resolution of production problems in the manufacture of products. This program provides instruction in machine operations, production line operations, engineering analysis, systems analysis, automation, computer-aided manufacturing CAM, manufacturing planning, quality control, and informational infrastructure.

		HOURS
General Education Requirements		18
Communications		9
<input type="checkbox"/> English Comp I	EG 101	3
<input type="checkbox"/> Public Speaking	SP 100	3
<input type="checkbox"/> One other course	EG 102 or EG 112	3
Science and Math		6
<input type="checkbox"/> Math Requirement	MA 131 or above	3
<input type="checkbox"/> Science Requirement (CH 105 strongly advised)	PH 109 or CH 105	3
Social/Behavioral Science Requirement		3
<input type="checkbox"/> Sociology	BS 105 or	
<input type="checkbox"/> General Psychology	BS 160	
Required Courses		37
<input type="checkbox"/> Machine Processes I*	IT 100	3
<input type="checkbox"/> Machine Processes II*	IT 102	3
<input type="checkbox"/> Beginning Concepts of CNC*	IT 120	3
<input type="checkbox"/> Machine Trades Print Reading*	IT 150	1
<input type="checkbox"/> Manufacturing Processes*	IT 204	3
<input type="checkbox"/> Industrial Safety*	IT 205	3
<input type="checkbox"/> Basic CATIA*	IT 218	3
<input type="checkbox"/> Advanced CATIA*	IT 219	3
<input type="checkbox"/> Adv. Automated Manufacturing with CNC*	IT 220	3
<input type="checkbox"/> Introduction to Material Science*	IT 226	3
<input type="checkbox"/> Manufacturing Part Design	IT 230	3
<input type="checkbox"/> Introduction to Quality Assurance	IT 260	3
<input type="checkbox"/> Introduction to Metrology	IT 263	3

A total of 64 hours is required for this degree. In addition to the 18 credit hours of general education requirements and 37 hours of required courses, students must choose 9 credit hours from the list of related electives below:

Related Electives		9
<input type="checkbox"/> Engineering Graphics I*	EN 101	3
<input type="checkbox"/> Engineering Graphics II*	EN 102	3
<input type="checkbox"/> Engineering Concepts*	EN 115	2
<input type="checkbox"/> Industrial Supervision*	IT 141	3
<input type="checkbox"/> Mechanical Devices and Sys*	IT 116	3
<input type="checkbox"/> Fluid Power*	IT 117	3
<input type="checkbox"/> Cooperative Education	IT 197	3
<input type="checkbox"/> Basic FeatureCAM*	IT 216	3
<input type="checkbox"/> Basic Mastercam*	IT 217	3
<input type="checkbox"/> Advanced FeatureCAM*	IT 221	3
<input type="checkbox"/> Advanced Mastercam*	IT 225	3

NOTE: (*) This course has pre-required course(s).

MANUFACTURING ENGINEERING TECHNOLOGY**Career Program**

Degree Offered: Associate in Applied Science in
Manufacturing Technology

Credits Required: 64

Contact: Buford Pringle, CMFGT, Lead Instructor, at
316.218.6136

Accreditation

TAC/ABET.

Prior to Admission

Appropriate placement scores, see an advisor for details.

University Articulations

Students wishing to take advantage of articulations with WSU, KSU-Salina or most universities are advised to complete up through PH 251 Physics I, which requires several Math prerequisites.

Additional Costs

Additional Lab Fee Is Assessed To Each Program Course And Subject To Change.

Median Wage

Salary/hourly rates are dependent on skill level, experience and location.



MANUFACTURING ENGINEERING TECHNOLOGY

CERTIFICATE

Your Butler experience will prepare you to apply basic engineering principles and technical skills to the identification and resolution of production problems in the manufacture of products. This program provides instruction in machine operations, production line operations, engineering analysis, systems analysis, instrumentation, physical controls, automation, computer- aided manufacturing CAM, manufacturing planning, quality control, and informational infrastructure.

Prior to Admission

Appropriate placement scores, see an advisor for details.

		HOURS
Required Courses		34
<input type="checkbox"/> Machine Processes I*	IT 100	3
<input type="checkbox"/> Machine Processes II*	IT 102	3
<input type="checkbox"/> Beginning Concepts of CNC*	IT 120	3
<input type="checkbox"/> Machine Trades Print Reading*	IT 150	1
<input type="checkbox"/> Manufacturing Processes*	IT 204	3
<input type="checkbox"/> Advanced CATIA*	IT 219	3
<input type="checkbox"/> Introduction to Quality Assurance	IT 260	3
<input type="checkbox"/> Industrial Safety*	IT 205	3
<input type="checkbox"/> Basic CATIA*	IT 218	3
<input type="checkbox"/> Adv. Automated Manufacturing with CNC*	IT 220	3
<input type="checkbox"/> Intro to Material and Manufacturing Science*	IT 226	3
<input type="checkbox"/> Manufacturing Part Design	IT 230	3

Students must have 3 hours of related electives from the following:

Related Electives		3
<input type="checkbox"/> Engineering Graphics I*	EN 101	3
<input type="checkbox"/> Engineering Graphics II*	EN 102	3
<input type="checkbox"/> Mechanical Devices and Systems*	IT 116	3
<input type="checkbox"/> Fluid Power*	IT 117	3
<input type="checkbox"/> Basic Feature CAM*	IT 216	3
<input type="checkbox"/> Advanced Feature CAM*	IT 221	3
<input type="checkbox"/> Advanced Mastercam*	IT 225	3

Certificate requires 37 credit hours.

NOTE: (*) This course has pre-required course(s).

MANUFACTURING ENGINEERING TECHNOLOGY

Career Program

Certificate Offered: Certificate in Manufacturing Technology and eligibility to take the Society of Manufacturing Engineers SME certification test

Credits Required: 37

Contact: Buford Pringle, CMFGT, Lead Instructor, at 316.218.6136

Accreditation

TAC/ABET

Prior to Admissions

Appropriate placement scores, see an advisor for details.

Additional Costs

Additional Lab Fee Is Assessed To Each Program Course And Subject To Change.

Median Wage

Salary/hourly rates are dependent on skill level, experience and location.

SURVEYING TECHNOLOGY**ASSOCIATE OF APPLIED SCIENCE**

Butler Community College's Associate of Applied Science in Surveying Technology degree is designed to prepare students for necessary training for future licensure as a land surveyor in Kansas. All 50 states and all U.S. territories license surveyors. The program consists of topics including field surveying techniques, surveying laws and ethics, Global Position Systems GPS, Geographic Information Systems GIS, land information systems, safety, drafting, and records research. The two-year Associate of Applied Science in Surveying Technology degree is designed to provide necessary training for future licensure as a land surveyor in Kansas.

		HOURS
General Education Requirements		24
Communications		12
<input type="checkbox"/> English Comp I	EG 101	3
<input type="checkbox"/> English Comp II	EG 102	3
<input type="checkbox"/> Public Speaking	SP 100	3
<input type="checkbox"/> Technical Writing	EG 112	3
Science and Math		9
<input type="checkbox"/> College Algebra w/Review or	MA 131 or above	3
<input type="checkbox"/> Trigonometry	MA 140	3
<input type="checkbox"/> Applied Physics or	PH 109 or	3
<input type="checkbox"/> Basic Physics I	PH 130	3
Social/Behavioral Science		3
<input type="checkbox"/> US History I or	HS 131 or	3
<input type="checkbox"/> US History II	HS 132	3
Required Courses		40
<input type="checkbox"/> Introduction to Surveying	SR 104	3
<input type="checkbox"/> AutoCAD Basics*	EN 107	3
<input type="checkbox"/> Introduction to GIS/GPS*	SR 110	3
<input type="checkbox"/> Accounting I	BA 126	3
<input type="checkbox"/> Surveying II*	SR 204	3
<input type="checkbox"/> Advanced GIS/GPS*	SR 210	3
<input type="checkbox"/> Principles of Management	BA 210	3
<input type="checkbox"/> Boundary Control	SR 220	3
<input type="checkbox"/> Business Ethics	BA 220	3
<input type="checkbox"/> Survey Law*	SR 222	3
<input type="checkbox"/> Legal Descriptions*	SR 224	2
<input type="checkbox"/> Subdivision Planning and Design*	SR 112	3
<input type="checkbox"/> Route Surveying*	SR 226	3
<input type="checkbox"/> Internship I	SR 193	2

A total of 64 credit hours is required for this degree; 24 hours of general education and 39 hours of technical courses.

NOTE: (*) This course has pre-required course(s).

SURVEYING TECHNOLOGY**Career Program**

Degree Offered: Associate in Applied Science

Credits Required: 63

Contact: Buford Pringle, CMFGT, Lead Instructor, at 316.218.6136

Prior to Admission

Appropriate placement scores, see an advisor for details.

Additional Costs

Additional lab fee is assessed to each program course and subject to change.

SURVEYING TECHNOLOGY**CERTIFICATE**

Your Butler experience will prepare you for future licensure as a land surveyor in Kansas.

Prior to Admission

Appropriate placement scores, see an advisor for details.

		HOURS
Required Courses		40
<input type="checkbox"/> Introduction to Surveying	SR 104	3
<input type="checkbox"/> AutoCAD Basics*	EN 107	3
<input type="checkbox"/> Introduction to GIS/GPS*	SR 110	3
<input type="checkbox"/> Accounting I	BA 126	3
<input type="checkbox"/> Surveying II*	SR 204	3
<input type="checkbox"/> Advanced GIS/GPS*	SR 210	3
<input type="checkbox"/> Principles of Management	BA 210	3
<input type="checkbox"/> Boundary Control	SR 220	3
<input type="checkbox"/> Business Ethics	BA 220	3
<input type="checkbox"/> Survey Law*	SR 222	3
<input type="checkbox"/> Legal Descriptions*	SR 224	2
<input type="checkbox"/> Subdivision Planning and Design*	SR 112	3
<input type="checkbox"/> Route Surveying*	SR 226	3
<input type="checkbox"/> Internship I	SR 193	2

Certificate requires 40 credit hours.

NOTE: (*) This course has pre-required course(s).



PRE-ENGINEERING

ASSOCIATE IN SCIENCE

	HOURS
Communications	9
<input type="checkbox"/> English Comp I	EG 101
<input type="checkbox"/> English Comp II	EG 102
<input type="checkbox"/> Public Speaking or	SP 100
<input type="checkbox"/> Interpersonal Communication	SP102
Science and Math	10*
<input type="checkbox"/> Calculus I with Analytic Geometry	MA 151
<input type="checkbox"/> College Chemistry I	CH 110
<input type="checkbox"/> Calculus II w/Analytic Geometry	MA 152
Social/Behavioral Science	6
<input type="checkbox"/> Social Science Requirement	
<input type="checkbox"/> Behavioral Science Requirement	
Humanities/Fine Arts	
<input type="checkbox"/> Humanities Requirement	6
<input type="checkbox"/> Fine Arts Requirement	
Physical Education	1
<input type="checkbox"/> Physical Education Requirement	

A minimum of 62 credit hours is required for the Associate in Science degree. In addition to general education requirements, coursework to complete this Associate in Science degree is listed below:

Required Courses		
<input type="checkbox"/> Calculus III with Analytic Geometry	MA 253	3
<input type="checkbox"/> Differential Equations	MA 260	3
<input type="checkbox"/> Physics I	PH 251	5
<input type="checkbox"/> Physics II	PH 252	5
<input type="checkbox"/> Engineering Graphics I or College Chemistry II	EN 101 or CH 115	3-5**
<input type="checkbox"/> Engineering Concepts	EN 115	2
<input type="checkbox"/> Statics	EN 260	3
Related Electives		3-6

*Some related elective hours are met with extra hours in Math and Science above.

**Students interested in civil, electrical, industrial and mechanical options of pre-engineering need Engineering Graphics I. Students interested in chemical, nuclear and petroleum options of pre-engineering should enroll in Chemistry II. Advisement in either course for any option should be verified by future university of choice. Also see "Engineering Graphics Technology."

Program Information

Courses available range from basic math and algebra to calculus, differential equations and statistics. Butler has agreements with the state universities for course transfer.

PRE-ENGINEERING

Career Program

Degree Offered: Associate in Applied Science

Credits Required: 62

Contact: Larry Friesen, Lead Mathematics/Engineering Instructor, at 316.322.3138

Requirements :

See Program of Study

Recommended Course Sequence

Semester 1:

EG 101, MA 151, CH 110, EN 115, Physical Education Requirement

Semester 2:

EG 102, MA 152, EN 101 or CH 115,

Semester 3:

MA 253, PH 251, SP 100, Humanities Requirement, or Electives

Semester 4:

MA 260, PH 252, EN 260, Behavioral Science Requirement, Fine Arts Requirement

Recommended Electives

Any IN Programming course; Any IT Manufacturing Engineering Technology course, Engineering Graphics I & II, EC200

WELDING TECHNOLOGY**ASSOCIATE IN APPLIED SCIENCE**

Your Butler experience will prepare you to apply technical knowledge and skills to join or cut metal surfaces. Includes instruction in various welding and cutting processes, blueprint reading, and metallurgy, all as applied to both ferrous and non-ferrous metals.

			HOURS
General Education Requirements			17
Communications			6
<input type="checkbox"/>	English Comp I	EG 101	3
<input type="checkbox"/>	Public Speaking	SP 100	3
Science, Math and Computer Science			11
<input type="checkbox"/>	Math Requirement	MA 114 or above	3
<input type="checkbox"/>	Science Requirement	CH 105 or above	5
<input type="checkbox"/>	Computer Science Requirement	BA 104	3
Required Courses			37
Semester I (Fall)			
<input type="checkbox"/>	General Industry Health & Safety	FS 113	2
<input type="checkbox"/>	Blueprint Reading (Welding)	WE 125	3
<input type="checkbox"/>	Cutting Processes	WE 126	3
<input type="checkbox"/>	Gas Metal Arc Welding (GMAW I)	WE 127	3
<input type="checkbox"/>	Gas Tungsten Arc Welding (GTAW I)	WE 128	3
<input type="checkbox"/>	Shielded Metal Arc Welding II (SMAW II)	WE 129	5
<input type="checkbox"/>	Oxy-Fuel Gas Welding	WE 130	1
Semester II (Spring)			
<input type="checkbox"/>	Gas Metal Arc Welding II (GMAW II)	WE 227	4
<input type="checkbox"/>	Gas Tungsten Arc Welding II (GTAW II)	WE 228	4
<input type="checkbox"/>	Shielded Metal Arc Welding II (SMAW II)	WE 229	4
<input type="checkbox"/>	Welding and Pipe Fitting	WE 213	2
<input type="checkbox"/>	Metallurgy	WE 220	3
Related Electives			9
<input type="checkbox"/>	Principles of Advertising	BA 103	3
<input type="checkbox"/>	Entrepreneurship	BA 109	3
<input type="checkbox"/>	Business Law I	BA 115	3
<input type="checkbox"/>	Accounting I	BA 126	3
<input type="checkbox"/>	Writing a Business Plan	BA 129	3
<input type="checkbox"/>	Introduction to Marketing	BA 140	3
<input type="checkbox"/>	Merchandising	BA 203	3
<input type="checkbox"/>	Principles of Management	BA 210	3
<input type="checkbox"/>	Personal Selling	BA 215	3
<input type="checkbox"/>	Cyber Marketing	BA 219	3
<input type="checkbox"/>	Microcomputer App.-Quickbooks	BE 182	1
<input type="checkbox"/>	Internship I	WE 193-1	1
<input type="checkbox"/>	Internship I	WE 193-2	2
<input type="checkbox"/>	Internship II	WE 194-1	1
<input type="checkbox"/>	Internship II	WE 194-2	2

A total of 63 credit hours is required for this degree. In addition to the 17 credit hours of general education requirements and 37 credit hours of required courses, you must choose 9 credit hours from the list of related electives.

WELDING TECHNOLOGY**Career Program**

Degree Offered: Associate in Applied Science

Credits Required: 63

Contact: Matt Galbraith, Lead Instructor, at 316.323.6824

Prior to Admission:

Appropriate placement scores; see an advisor for details.

Recommendations

These classes are in high demand and fill quickly. Enrollment is limited.

Accreditation

All Instructor are AWS Certified Welding educators.

The Welding Department is a certified participating organization in the AWS SENCE Program.

Additional Costs/Tool Requirement

An additional \$25 lab fee is assessed to each program course and subject to change.

Recommended Course Sequence**Semester 1:**

FS 113, WE 125, WE 126, WE 127, WE 128, WE 129, WE 130

Semester 2:

WE 227, WE 228, WE 229, WE 213, WE 220,

Semester 3:

General Education and/or Related Elective Classes

Semester 4:

General Education and/or Related Elective Classes

After Butler

Recent graduates hold positions as welders, welding inspectors or supervisors, and welding sales representatives.

Median Wage for Welders, Cutters, Solderers, and Brazers in South Central Kansas is \$30,905 per year. (Source: Workforce Planning Guide & Wage Survey, Local Area IV 2003 Edition, KDHR.)



WELDING TECHNOLOGY

CERTIFICATE

Your Butler experience will prepare you to apply technical knowledge and skills to join or cut metal surfaces. Includes instruction in various welding and cutting processes, blueprint reading, and metallurgy, all as applied to both ferrous and non-ferrous metals.

Prior to Admission

Appropriate placement scores, see an advisor for details.

		HOURS
Required Courses		37
Semester I (Fall)		
<input type="checkbox"/> General Industry Health & Safety	FS 113	2
<input type="checkbox"/> Blueprint Reading (Welding)	WE 125	3
<input type="checkbox"/> Cutting Processes	WE 126	3
<input type="checkbox"/> Gas Metal Arc Welding (GMAW I)	WE 127	3
<input type="checkbox"/> Gas Tungsten Arc Welding (GTAW I)	WE 128	3
<input type="checkbox"/> Shielded Metal Arc Welding I (SMAW I)	WE 129	5
<input type="checkbox"/> Oxy-Fuel Gas Welding	WE 130	1
Semester II (Spring)		
<input type="checkbox"/> Gas Metal Arc Welding II (GMAW II)	WE 227	4
<input type="checkbox"/> Gas Tungsten Arc Welding II (GTAW II)	WE 228	4
<input type="checkbox"/> Shielded Metal Arc Welding II (SMAW II)	WE 229	4
<input type="checkbox"/> Welding and Pipe Fitting	WE 213	2
<input type="checkbox"/> Metallurgy	WE 220	3

Certificate requires 37 credit hours with a minimum accumulative GPA of 2.0 in program classes.

WELDING TECHNOLOGY

Career Program

Certificate Offered: Certificate in Welding Technology

Credits Required: 37

Contact: Matt Galbraith, Lead Instructor, at 316.323.6824

Recommendations

These classes are in high demand and fill quickly. Enrollment is limited.

Accreditation

All Instructors are AWS Certified Welding educators. The Welding Department is a certified participating organization in the AWS SENCE Program

Additional Costs/Tool Requirement

An additional \$25 lab fee is assessed to each program course and subject to change.

Prior to Admission

Appropriate placement scores, see an advisor for details.

Recommended Course Sequence

Semester 1:

WE 121, WE 112, WE 116, WE 113, WE 114, WE 111, WE 215

Semester 2:

WE 122, WE 220, WE 119, WE 219, WE 216, WE 212, WE 213

After Butler

Recent graduates hold positions as welders, welding inspectors or supervisors, and welding sales representatives

Median Wage for Welders, Cutters, Solderers, and Brazers in South Central Kansas is \$30,905 per year. (Source: Workforce Planning Guide & Wage Survey, Local Area IV 2003 Edition, KDHR.)

CONSTRUCTION TRADES**CERTIFICATE**

Your Butler experience will prepare you to apply technical knowledge and skills to work on construction crews to construct and finish residential homes. This program includes training in OSHA safety standards, construction craft skills, framing floors, walls, ceilings, roofs, and installation of doors, windows, and stairs. NCCER Level 1 certification. Additional lab fees are assessed to each program course and subject to change. Students are required to purchase their own tools by the end of the first week of class. Estimated cost is \$200. These classes are in high demand and fill quickly.

Required Courses		HOURS
SEMESTER 1		18
<input type="checkbox"/> Safety Orientation	CN 100	1
<input type="checkbox"/> Introductory Craft Skills	CN 106	3
<input type="checkbox"/> Carpentry Basics	CN 108	4
SEMESTER 2		
<input type="checkbox"/> Floors, Walls, and Ceiling Framing	CN 110	4
<input type="checkbox"/> Roof Framing	CN 111	3
<input type="checkbox"/> Windows, Doors and Stairs	CN 112	3

Certificate requires 18 credit hours.

CONSTRUCTION TRADES**Career Program**

Certificate Offered: Construction Trades, NCCER Level 1

Credits Required: 18

Contact: Jim Edwards, CTE Dean, at 316.322.3128 or 316.733.3128

Program Information

These classes prepare students for the National Center for Construction Education and Research (NCCER) Level 1 Certification.

Recommendations

These classes are in high demand and fill quickly. Enrollment is limited.

Articulations

This program of study is eligible for free course credit if you meet the requirements and attended an eligible high school. Please check out the following link to see whether you might be eligible to receive articulated credit: <http://www.butlercc.edu/careerpathways/areahighschools.cfm>

Accreditation

The National Center for Construction Education and Research (NCCER) is a not-for-profit education foundation created to develop industry-driven standardized craft training programs with portable credentials and help address the critical workforce shortage facing the construction industry.

Additional Costs/Tool Requirement

An additional \$20 lab fees is assessed to each program course and subject to change. Students are required to purchase their own tools at the beginning of the program at an estimated cost of \$200. NCCER/Residential Carpentry & Construction tool requirements: tool bag with belt, tape measure (12' minimum), speed square, claw hammer (16oz. minimum), utility knife, construction pencils, and work boots (steel toe not required). Optional tools: pliers, work gloves, hat, rubber boots, change of clothes for inclement weather.

Prior to Admission

Appropriate placement scores, see an advisor for details.

Recommended Course Sequence

Classes must be taken in the following sequence. This is a two-year certificate program.

Fall Start

Semester 1: CN 100, CN 106, CN 108

Semester 2: CN 110, CN 111, CN 112

After Butler

The Construction Trades program is new at Butler Community College with the inaugural class to begin Fall of 2011. Students should be ready to find employment in residential construction firms.

Median Wage for Construction laborers in South Central Kansas is \$25,520 per year.

(Source: Kansas Wage Survey, Local Area IV 2010 Edition, KDHR.)