

# Certificate Programs



# Certificate

## Description

The Airframe Aviation Maintenance certificate will prepare the student in the Federal Aviation Administration knowledge and hours required for the Airframe license. The subjects covered are welding, sheet metal, composites, fabric and wood structures, finishes, assembly and rigging, airframe electrical, cabin atmosphere control systems, instruments, communication, navigation, hydraulics, pneumatics, landing gear systems, position and warning, fuel systems, ice and rain, fire protection, and airframe inspections.

## Type of Degree or Certificate

Certificate

**54 Total Credit Hours**

# Airframe Aviation Maintenance

*Sinclair recognizes the important connection between student success and academic preparedness. Depending on placement scores and/or equivalent college course work, students may be required to complete developmental courses before enrolling in the college level courses of this program.*

Course & Title			Credit Hours
<b>FIRST QUARTER</b>			
AVT	136	Sheet Metal I	4
AVT	227	Fabric & Wood Structures	3
AVT	229	Aircraft Finishes	3
AVT	109	Composites For Aircraft	4
TOTAL			14
<b>SECOND QUARTER</b>			
AVT	121	Assembly & Rigging	5
AVT	108	Ice & Rain/Fire Protection	2
AVT	236	Sheet Metal II	3
AVT	137	Aircraft Structural Welding	2
TOTAL			12
<b>THIRD QUARTER</b>			
AVT	132	Electrical Systems I	4
AVT	214	Cabin Atmosphere Control Systems	3
AVT	133	Instrument Systems	2
AVT	134	Communication/Navigation Systems	2
AVT	107	Fuel Systems	3
TOTAL			14
<b>FOURTH QUARTER</b>			
AVT	218	Landing Gear	4
AVT	106	Position & Warning Systems	2
AVT	232	Electrical Systems II	3
AVT	237	Airframe Inspections	2
AVT	217	Hydraulics & Pneumatics Systems	3
TOTAL			14

# Automotive Technology

*Sinclair recognizes the important connection between student success and academic preparedness. Depending on placement scores and/or equivalent college course work, students may be required to complete developmental courses before enrolling in the college level courses of this program.*

Course & Title			Credit Hours
<b>FIRST QUARTER</b>			
AUT	102	Introduction to Automotive Service	3
AUT	165	Automotive Brake System	5
AUT	124	Electrical/Electronic Systems Level I	5
AUT	210	Steering, Suspension & Alignment	5
		TOTAL	18
<b>SECOND QUARTER</b>			
AUT	115	Engine Performance I	7
AUT	142	Manual Transmissions & Drive Line	5
AUT	108	Engine Systems	5
		TOTAL	17
<b>THIRD QUARTER</b>			
AUT	125	Electrical/Electronic Systems II	7
AUT	146	Automotive Heating & Air Conditioning	5
		TOTAL	12
<b>FOURTH QUARTER</b>			
AUT	245	Engine Performance II	7
AUT	241	Automatic Transmissions	7
		TOTAL	14

## Certificate

### Description

This program is designed for students who want to become automotive technicians without pursuing an associate degree. It will allow students to expand their knowledge of the automotive industry and secure employment with dealerships, independent services facilities, machine shops, and corporate services franchises.

### Type of Degree or Certificate

Certificate

### 61 Total Credit Hours

# Career Program

## Description

This program is designed for students who want to become automotive technicians without pursuing an associate degree. It will allow students to expand their knowledge of the automotive industry and secure employment with dealerships, independent services facilities, machine shops, and corporate services franchises.

### Type of Degree or Certificate

Certificate

**58 Total Credit Hours**

# Automotive Technology (HONDA)

*Sinclair recognizes the important connection between student success and academic preparedness. Depending on placement scores and/or equivalent college course work, students may be required to complete developmental courses before enrolling in the college level courses of this program.*

Course & Title		Credit Hours
<b>FIRST QUARTER</b>		
AUT 165	Automotive Brake System	5
AUT 124	Electrical/Electronic Systems Level I	5
AUT 210	Steering, Suspension & Alignment	5
	TOTAL	15
<b>SECOND QUARTER</b>		
AUT 115	Engine Performance I	7
AUT 142	Manual Transmissions & Drive Line	5
AUT 108	Engine Systems	5
	TOTAL	17
<b>THIRD QUARTER</b>		
AUT 125	Electrical/Electronic Systems II	7
AUT 146	Automotive Heating & Air Conditioning	5
	TOTAL	12
<b>FOURTH QUARTER</b>		
AUT 245	Engine Performance II	7
AUT 241	Automatic Transmissions	7
	TOTAL	14

CERTIFICATE

# Business Information Systems

## Information Processing Option

Sinclair recognizes the important connection between student success and academic preparedness. Depending on placement scores and/or equivalent college course work, students may be required to complete developmental courses before enrolling in the college level courses of this program.

Course & Title			Credit Hours
<b>FIRST QUARTER</b>			
ENG	111	English Composition I	3
MAT	105	Business Mathematics	4
BIS	101	Personal Computer Keyboarding	2
BIS	105	Computer Concepts	3
BIS	M75	The Internet	3
BIS	M85	Microsoft Word	<u>2</u>
TOTAL			17
<b>SECOND QUARTER</b>			
ENG	112	English Composition II	3
BIS	102	Document Formatting	2
COM	206	Interpersonal Communication	3
BIS	114	Records Management & Electronic Files	3
BIS	201	Customer Service	3
BIS	M55	Microsoft PowerPoint	2
BIS	M86	Advanced/Expert Word	<u>2</u>
TOTAL			18
<b>THIRD QUARTER</b>			
ENG	199	Text Editing	3
BIS	103	Advanced Document Formatting/Skillbuilding	4
BIS	M45	Microsoft Excel	2
BIS	202	Advanced Customer Service Concepts	3
BIS	M25	Desktop Publishing	2
BIS	M35	Microsoft Access	<u>2</u>
TOTAL			16

## Certificate

### Description

In this one-year certificate program, students receive specialized training necessary to work with personal computers and end-user software applications, such as Microsoft Word, Excel, PowerPoint, Publisher, and Access. Also, students master the basics of customer service, work place technology and electronic files management to provide administrative support in a variety of entry level office positions.

### Type of Degree or Certificate

Certificate

**51 Total Credit Hours**

# Certificate

## Description

In this one-year certificate program, students receive specialized training necessary to work with personal computers and end-user software applications in a medical office. Students master the basics of medical terminology, medical office procedures, medical transcription and medical billing to provide administrative support in a variety of medical office environments.

### Type of Degree or Certificate

Certificate

**55 Total Credit Hours**

# Business Information Systems Medical Office Specialist

*Sinclair recognizes the important connection between student success and academic preparedness. Depending on placement scores and/or equivalent college course work, students may be required to complete developmental courses before enrolling in the college level courses of this program.*

Course & Title			Credit Hours
<b>FIRST QUARTER</b>			
ENG	111	English Composition I	3
MAT	105	Business Mathematics	4
BIS	136	Introduction to Medical Terminology	4
		TOTAL	11
<b>SECOND QUARTER</b>			
ENG	112	English Composition II	3
BIS	102	Document Formatting	2
BIS	137	Intermediate Medical Terminology	4
BIS	M45	Microsoft Excel	2
BIS	M85	Microsoft Word	2
		TOTAL	13
<b>THIRD QUARTER</b>			
BIS	138	Advanced Medical Terminology	4
MAN	205	Principles of Management	3
HIM	260	ICD-9-CM Medical Office Coding	3
BIS	116	Medical Office Procedures	4
ENG	199	Text Editing	3
		TOTAL	17
<b>FOURTH QUARTER</b>			
HIM	261	CPT Medical Office Coding	3
BIS	201	Customer Service	3
BIS	220	Computer Applications for the Medical Office	4
BIS	251	Medical Transcription I	4
		TOTAL	14

# Business Information Systems

## Personal Computers in Business

*Sinclair recognizes the important connection between student success and academic preparedness. Depending on placement scores and/or equivalent college course work, students may be required to complete developmental courses before enrolling in the college level courses of this program.*

Course & Title			Credit Hours
<b>FIRST QUARTER</b>			
BIS	105	Computer Concepts	3
BIS	M75	The Internet	3
MAN	105	Introduction to Business	3
BIS	M85	Microsoft Word	2
ACC	121	Introduction to Financial Accounting	5
ENG	111	English Composition I	3
			3
TOTAL			19
<b>SECOND QUARTER</b>			
CIS	107	Introduction to Operating Systems	3
BIS	M35	Microsoft Access	2
BIS	M45	Microsoft Excel	2
BIS	M55	Microsoft PowerPoint	2
BIS	M86	Advanced/Expert Word	2
COM		Communication Arts Elective	3
			3
TOTAL			14
<b>THIRD QUARTER</b>			
BIS	M36	Advanced/Expert Access	3
BIS	M46	Advanced/Expert Excel	3
BIS	172	Integrated Solutions	2
CIS	130	Introduction to Web Development	3
CIS	162	Troubleshooting Desktop Applications on a Microsoft Windows Operating System	3
		Computer Information Systems Elective	3
			3
TOTAL			17

## Certificate

### Description

Students learn how to use personal computers for business administration, decision support, and financial applications. The personal computers certificate is intended for those with higher education and/or skills to update their knowledge with personal computer techniques.

### Type of Degree or Certificate

Certificate

**50 Total Credit Hours**

# Certificate

## Description

With this program, students gain an understanding of business procedures to prepare them for a management position, or update the management skills of those currently employed in a managerial, administrative or office support role.

### Type of Degree or Certificate

Certificate

**49 Total Credit Hours**

# Business Management

*Sinclair recognizes the important connection between student success and academic preparedness. Depending on placement scores and/or equivalent college course work, students may be required to complete developmental courses before enrolling in the college level courses of this program.*

Course & Title			Credit Hours
<b>FIRST QUARTER</b>			
MAN	205	Principles of Management	3
BIS	160	Introduction to Word, PowerPoint, & Excel	3
MAT	122	Statistics I	4
COM	206	Interpersonal Communication	3
ENG	111	English Composition I	3
		or	
	131	Business Communications I	
		TOTAL	<u>16</u>
<b>SECOND QUARTER</b>			
MAN	225	Human Relations & Organizational Behavior	3
COM	211	Effective Public Speaking	3
ENG	112	English Composition II	3
		or	
	132	Business Communications II	
ECO	218	Principles of Microeconomics	4
MAN	225	Management Information Systems	<u>3</u>
		TOTAL	<u>16</u>
<b>THIRD QUARTER</b>			
MRK	201	Marketing I	3
MAN	110	Introduction to International Business	3
MAN		Management Elective	3
MAN	279	Business Capstone	5
		Business Elective	<u>3</u>
		TOTAL	<u>17</u>

# Computer Aided Manufacturing

## Project Step II

Sinclair recognizes the important connection between student success and academic preparedness. Depending on placement scores and/or equivalent college course work, students may be required to complete developmental courses before enrolling in the college level courses of this program.

Course & Title			Credit Hours
<b>FIRST QUARTER</b>			
INT	107	Principles of Manufacturing	4
INT	109	Fundamentals of Tool & Manufacturing Processes	4
INT	141	Applied Shop Mathematics I	3
INT	161	Machine Operations Laboratory I	8
		TOTAL	19
<b>SECOND QUARTER</b>			
INT	113	Fundamentals of CNC	3
INT	142	Applied Shop Mathematics II	3
INT	162	Machine Operations Laboratory II	8
OPT	100	Tooling & Machining Metrology	2
		TOTAL	16
<b>THIRD QUARTER</b>			
INT	143	Applied Shop Mathematics III	3
INT	163	Machine Operations Laboratory III	8
		INT Elective	3
INT	116	CNC Operations	3
		TOTAL	17

## Certificate

### Description

A nine-month intensive training program offered by Sinclair Community College in cooperation with the Dayton Tooling & Machining Association, Inc. the Computer Aided Manufacturing certificate completion prepares a graduate for employment in the tool & die industry as well as career advancement. To enroll for the three quarters of training beginning in September and finishing in June, a student must formally apply for admittance to the program through the Science, Mathematics & Engineering division. The student who is accepted into the program will receive 25-30 hours of classroom and laboratory instruction per week as well as producing for personal use tools valued at approximately \$1,500. Classes are available evenings as well as weekends to accommodate students who are unable to attend during the day.

### Type of Degree or Certificate

Certificate

### 52 Total Credit Hours

### Career Opportunities

The Tooling & Machining certificate completion prepares graduates for employment in the tool & die industry.

# Certificate

## Description

Accredited by the Ohio Department of Public Safety, Division of Emergency Medical Services, this five-quarter sequence of courses provides classroom, laboratory, in-hospital, and field clinical experience. A physical examination and specific immunizations are required at the student's expense prior to clinical practicums. The student is required to earn at least a 78 percent in paramedic course series. Following successful completion of EMS 135, EMS 136, EMS 137, EMS 138, and EMS 139, the student is eligible to sit for the Ohio certifying examination for Emergency Medical Technician-Paramedic. Day and evening classes are available to accommodate work schedules. Admission packets are available from the office of Admissions, Room 10112 or the EMS office.

### Program Prerequisites

Ohio EMT-Basic Certification, complete health assessment, current CPR card

### Type of Degree or Certificate

Certificate

### 45 Total Credit Hours

# EMT Paramedic Certification

*Sinclair recognizes the important connection between student success and academic preparedness. Depending on placement scores and/or equivalent college course work, students may be required to complete developmental courses before enrolling in the college level courses of this program.*

Course & Title	Credit Hours
<b>FIRST QUARTER</b>	
EMS 135 EMT-Paramedic I: Introduction to ALS Care	<u>9</u>
TOTAL	9
<b>SECOND QUARTER</b>	
EMS 136 EMT-Paramedic II: Cardiovascular Emergencies	<u>9</u>
TOTAL	9
<b>THIRD QUARTER</b>	
EMS 137 EMT-Paramedic III: Pediatric & Trauma Emergencies	<u>9</u>
TOTAL	9
<b>FOURTH QUARTER</b>	
EMS 138 EMT-Paramedic IV: The Medical Patient	<u>9</u>
TOTAL	9
<b>FIFTH QUARTER</b>	
EMS 139 EMT-Paramedic V: Integration	<u>9</u>
TOTAL	9

# Early Childhood Studies

*Sinclair recognizes the important connection between student success and academic preparedness. Depending on placement scores and/or equivalent college course work, students may be required to complete developmental courses before enrolling in the college level courses of this program.*

Course & Title			Credit Hours
<b>FIRST QUARTER</b>			
ECE	101	Introduction to Early Childhood Education	3
ECE	106	Childhood Nutrition, Health, & Safety	3
ECE	150	The Young Child	4
ENG	111	English Composition I	3
			3
TOTAL			13
<b>SECOND QUARTER</b>			
ECE	145	Guidance of Young Children	3
ECE	120	Observing Young Children	3
		Early Childhood Education Elective	3
SOC	111	General Sociology I	3
COM	211	Effective Public Speaking	3
			3
TOTAL			15
<b>THIRD QUARTER</b>			
ECE	117	Language & Literacy Experiences in Early Childhood	4
ECE	135	Group Care for Infant & Toddler	3
ECE	146	The Challenging Child	3
		Early Childhood Education Elective	3
ECE	208	Inclusion: Principles & Practices	4
			4
TOTAL			17

## Certificate

### Description

This program prepares individuals to work with young children in a variety of education and child care settings. Those individuals completing this certificate will meet Ohio Job & Family Services Child Day Care Center licensing requirements for child care staff training.

### Type of Degree or Certificate

Certificate

### 45 Total Credit Hours

# Certificate

## Description

This program prepares existing or potential entrepreneurs in wide variety of small business functions. In addition to traditional management courses, the following key areas are emphasized for entrepreneurs: entrepreneurial management, small business marketing, small business finance, and business plan development.

### Type of Degree or Certificate

Certificate

### 51 Total Credit Hours

### Career Opportunities

Employment opportunities include account secretaries in accounting departments in private businesses and industries, educational institutions, and other governmental agencies.

# Entrepreneurship

*Sinclair recognizes the important connection between student success and academic preparedness. Depending on placement scores and/or equivalent college course work, students may be required to complete developmental courses before enrolling in the college level courses of this program.*

Course & Title			Credit Hours
<b>FIRST QUARTER</b>			
BIS	160	Introduction to Word, PowerPoint, & Excel	3
COM	211	Effective Public Speaking	3
ENG	111	English Composition I	3
		or	
	131	Business Communications I	
ENT	105	Introduction to Entrepreneurship	3
MAN	110	Introduction to International Business	3
	—	Social & Behavioral Sciences Elective	<u>3</u>
		TOTAL	18
<b>SECOND QUARTER</b>			
BIS	M35	Microsoft Access	2
ENG	112	English Composition II	3
		or	
	132	Business Communications II	
MRK	220	Small Business Marketing	3
LAW	101	Business Law I	4
MAN	201	Introduction to Supervision	3
ENT	240	Small Business Finance	<u>3</u>
		TOTAL	18
<b>THIRD QUARTER</b>			
ECO	218	Principles of Microeconomics	4
ENT	260	Business Plan Development	5
MAN	205	Principles of Management	3
MRK	236	Consumer Behavior	<u>3</u>
		TOTAL	15

CERTIFICATE

# Food Service Management

*Sinclair recognizes the important connection between student success and academic preparedness. Depending on placement scores and/or equivalent college course work, students may be required to complete developmental courses before enrolling in the college level courses of this program.*

Course & Title		Credit Hours
<b>FIRST QUARTER</b>		
SCC 101	Student Success Experience	2
HMT 105	Introduction to the Hospitality & Tourism Industry	3
HMT 107	Sanitation & Safety	3
BIS 160	Introduction to Word, PowerPoint, & Excel	3
ENG 111	English Composition I	3
	or	
HMT 131	Business Communications I	
HMT 101	Dining/Kitchen Orientation	<u>2</u>
	TOTAL	16
<b>SECOND QUARTER</b>		
ACC 121	Introduction to Financial Accounting	5
HMT 112	Food Principles & Basic Preparation	5
HMT 110	Menu Planning	2
MAN 205	Principles of Management	3
HMT	Hospitality Management Elective	3 - 5
	TOTAL	18 - 20
<b>THIRD QUARTER</b>		
HMT 114	Advanced Food Preparation	5
HMT 201	Food Service Equipment Design & Maintenance	3
HMT 215	Food & Labor Cost Controls	3
HMT 225	Organization & Administration of Hospitality Industry	3
HMT 226	Purchasing for the Hospitality Industry	<u>3</u>
	TOTAL	17

## Certificate

### Description

The Food Service Management certificate program combines classroom instruction and laboratory experience in food preparation and service for the restaurant and lodging industry. The curriculum includes the National Restaurant Association ProManagement courses that lead to the ProManagement certificate.

### Type of Degree or Certificate

Certificate

### 51-53 Total Credit Hours

### Career Opportunities

This certificate provides experience for food preparation and service for restaurants and lodging industry.

# Certificate

## Description

The General Aviation Maintenance certificate provides knowledge and skills for the general knowledge area required for FAA certification as an airframe and powerplant maintenance technician. Students will learn to apply mathematics and physics principles to practical aircraft maintenance problems, read and interpret aircraft drawings, conduct aircraft ground operations and servicing, interpret maintenance publications, understand maintenance technician responsibilities, understand FAA regulations, and perform weight and balance calculations.

### Type of Degree or Certificate

Certificate

**45 Total Credit Hours**

# General Aviation Maintenance

*Sinclair recognizes the important connection between student success and academic preparedness. Depending on placement scores and/or equivalent college course work, students may be required to complete developmental courses before enrolling in the college level courses of this program.*

### Course & Title

#### FIRST QUARTER

			Credit Hours
AVT	105	Orientation to Aviation	3
AVT	112	Performance Calculations	2
AVT	113	Drawings for Aviation Maintenance	4
AVT	114	Fluids & Gasses	2
AVT	115	Ground Operations & Servicing	3
		TOTAL	14

#### SECOND QUARTER

AVT	117	Fluid Lines & Fittings	3
AVT	213	Corrosion Control	4
AVT	110	Ground School/Private Pilot	4
AVT	116	Regulations & Documentation	5
		TOTAL	16

#### THIRD QUARTER

AVT	131	Electrical Aviation Maintenance	5
AVT	118	Weight & Balance	4
AVT	135	Materials & Processes	6
		TOTAL	15

CERTIFICATE

# Powerplant Aviation Maintenance

*Sinclair recognizes the important connection between student success and academic preparedness. Depending on placement scores and/or equivalent college course work, students may be required to complete developmental courses before enrolling in the college level courses of this program.*

Course & Title			Credit Hours
<b>FIRST QUARTER</b>			
AVT	126	Reciprocating Engines I	5
AVT	128	Instruments & Fire Protection	3
AVT	139	Induction/Exhaust/Cooling	4
			4
TOTAL			12
<b>SECOND QUARTER</b>			
AVT	226	Reciprocating Engines II	5
AVT	231	Engine Electrical	4
AVT	127	Lubrication	5
			5
TOTAL			14
<b>THIRD QUARTER</b>			
AVT	234	Reciprocating Engines III	3
AVT	122	Engine Ignition & Starting I	4
AVT	239	Powerplant Inspections	2
AVT	138	Engine Fuel & Fuel Metering	5
			5
TOTAL			14
<b>FOURTH QUARTER</b>			
AVT	219	Turbine Engines	4
AVT	129	Propellers	5
AVT	222	Engine Ignition & Starting II	3
			3
TOTAL			12

## Certificate

### Description

The Powerplant Aviation Maintenance certificate will prepare the student with the knowledge and hours required for the Federal Aviation Administration's Powerplant license. The subjects covered include reciprocating and turbine engine operation theory, lubrication, powerplant electricity, ignition, starting, fire protection, auxiliary power units, engine instruments, induction, exhaust, cooling, fuel systems and fuel metering, propeller operation and overhaul, and powerplant inspection.

### Type of Degree or Certificate

Certificate

**52 Total Credit Hours**

CERTIFICATE

# Certificate

## Description

Students are prepared to apply the mathematics and basic laws of physics to the non-destructive testing and quality inspection of mechanical and electronic systems.

### Type of Degree or Certificate

Certificate

### 46 Total Credit Hours

### Career Opportunities

This certificate is geared both to students who desire an entry level position in the area of mechanical inspection or to skilled workers desiring upgrade training.

# Quality Control Technology

*Sinclair recognizes the important connection between student success and academic preparedness. Depending on placement scores and/or equivalent college course work, students may be required to complete developmental courses before enrolling in the college level courses of this program.*

Course & Title			Credit Hours
<b>FIRST QUARTER</b>			
OPT	100	Tooling & Machining Metrology	2
OPT	107	Engineering Disasters	1
OPT	120	Process Metrology	3
MAT	131	Technical Mathematics I	5
ETD	128	Introduction to Design Engineering Symbology	3
ETD	198	Personal Computer Applications for Engineering Technology	2
TOTAL			16
<b>SECOND QUARTER</b>			
INT	109	Fundamentals of Tool & Manufacturing Processes	4
OPT	101	Introduction to Operations	3
OPT	113	Coordinate Measurement	3
OPT	223	ISO 9000/16949 Quality Systems & Auditing	3
OPT	225	Design & Process Failure Modes & Effects Analysis	2
TOTAL			15
<b>THIRD QUARTER</b>			
OPT	137	Packaging Concepts & Materials	3
OPT	201	Statistical Process Control	3
OPT	240	Six Sigma: Green Belt	3
ENG	111	English Composition I	3
COM	211	Effective Speaking I	3
		or	
	206	Interpersonal Communication	3
TOTAL			15

CERTIFICATE

# Supply Chain Management

Sinclair recognizes the important connection between student success and academic preparedness. Depending on placement scores and/or equivalent college course work, students may be required to complete developmental courses before enrolling in the college level courses of this program.

Course & Title			Credit Hours
<b>FIRST QUARTER</b>			
MAN	241	Introduction to Supply Chain Management	3
BIS	160	Introduction to Word, PowerPoint, & Excel	3
COM	206	Interpersonal Communication	3
		or	
	211	Effective Public Speaking	
ENG	111	English Composition I	3
		or	
	131	Business Communications I	
LAW	101	Business Law I	4
		TOTAL	16
<b>SECOND QUARTER</b>			
MAN	110	Introduction to International Business	3
MAN	205	Principles of Management	3
MAN	242	Advanced Supply Chain Management (SCM)	3
EENG	112	English Composition II	3
		or	
	132	Business Communications II	
MAT	122	Statistics I	4
		TOTAL	16
<b>THIRD QUARTER</b>			
MAN	244	Negotiation Techniques	3
MAN	255	Management Information Systems I	3
MAN	201	Introduction to Supervision	3
OPT	251	Materials Management	2
		or	
MAN	247	DoD Systems Acquisition Management and	3
MAN	248	DoD Acquisition Logistics Fundamentals	3
		TOTAL	14-15

## Certificate

### Description

With this certificate program, students gain a basic understanding of Supply Chain Management (SCM) processes to prepare them for an SCM position or to update the skills of those currently employed in an SCM role. This study involves consideration and application of processes to develop coordinated supplier-to-consumer systems, including: identifying needs for raw materials, supplies, and components; developing specifications; computing quantity requirements; selecting sources and negotiating agreements; acquiring, transporting, and storing inventory; managing and maintaining operations; and logistics management.

### Type of Degree or Certificate

Certificate

### 46-47 Total Credit Hours

# Certificate

## Description

This four-quarter certificate concentrates on developing the skills needed to become employed as technicians for surveying or civil engineering firms.

### Type of Degree or Certificate

Certificate

### 50 Total Credit Hours

### Career Opportunities

Individuals with skills in the use of surveying equipment and surveying software programs are always in demand to work with surveying professionals in surveying firms, civil engineering and architectural design firms as well as contractors and construction management organizations.

# Surveying

*Sinclair recognizes the important connection between student success and academic preparedness. Depending on placement scores and/or equivalent college course work, students may be required to complete developmental courses before enrolling in the college level courses of this program.*

Course & Title			Credit Hours
<b>FIRST QUARTER</b>			
CAT	101	Architectural Drafting	3
CAT	105	Residential Construction Methods & Materials	4
CAT	110	Introduction to Civil & Architectural Technology	3
ETD	198	Personal Computer Applications for Engineering Technology	<u>2</u>
TOTAL			12
<b>SECOND QUARTER</b>			
CAT	121	Civil Construction Blueprints & Drafting	2
COM	206	Interpersonal Communication	3
ETD	199	Introduction to Computer Aided Drafting Concepts	2
MAT	131	Technical Mathematics I	<u>5</u>
TOTAL			12
<b>THIRD QUARTER</b>			
CAT	145	Introduction to O.S.H.S. Construction Standards	1
CAT	123	Basic Construction Surveying	4
CAT	199	Architectural 2-D Drafting	3
MAT	132	Technical Mathematics II	<u>5</u>
TOTAL			13
<b>FOURTH QUARTER</b>			
CAT	221	Topographic Surveying & Geomatics	4
CAT	227	Introduction to GIS & GPS	3
CAT	231	O.S.H.S. Construction Standards	3
ENG	111	English Composition I	<u>3</u>
TOTAL			13