College of Technical Sciences Programs

Bachelor of Arts degree
Computer Information Systems

Bachelor of Science degrees
Agricultural Operations Tech
Automotive Technology
Business Technology
Engineering Technology: Civil Engineering Technology
Computer Engineering Tech
Design Drafting Technology
Diesel Technology
Industrial Technology

Associate of Applied Science degrees
Agricultural Mechanics Tech
Agricultural Technology
Automotive Technology
Automotive Tech (Auto Body)
Engineering Technology: Civil Engineering Technology
Computer Engineering Tech
Computer Information Systems
Design Drafting Technology
Diesel Technology
Engineering Technology: Electronics Engineering Tech
Railroad Maint. & Operation
School Bus Administration

Associate of Science degree
With a program of study in
Business Technology

Minors
Accounting
Agricultural Mechanics Tech
Applied Agriculture
Automotive Technology
Automotive Tech (Auto Body)
Business Technology
Engineering Technology: Civil Engineering Technology
Computer Information Systems
Design Drafting Technology
Diesel Technology
Marketing: Tech Sales & Service
Small Business Management

Certificates
Automotive Technology

College of Technical Sciences

The curricula offered by the College of Technical Sciences combines significant hands-on experience with liberal education foundations for a comprehensive learning experience.

Advising Information

Students are encouraged to meet with their advisor at the beginning of each semester to confirm their plan of study and make any necessary adjustments. **Please note** that the suggested plan of study listed with each degree program is merely a sample schedule. Due to course scheduling changes, staff assignments, and other conflicts, it may not be possible to follow the suggested plans exactly. Meeting with an advisor before registering for classes each semester will allow students to plan a schedule that will meet their needs and assist them in completing requirements in an efficient manner.

Agricultural Mechanics Technology

The Agricultural Mechanics Technology curricula provide opportunities for students interested in employment with agricultural dealerships, manufacturing entities, or production agriculture.

Agricultural Operations Technology

The AOT degree is designed to prepare students for careers requiring integration of applied mechanical and electrical/electronic/computer technologies, agricultural sciences, and agribusiness disciplines.

Agricultural Technology

The Agricultural Technology degree emphasizes study in agricultural production, management, computing, marketing, and business. Coursework allows students to focus on either agribusiness or applied agriculture.

Automotive Technology

The automotive curricula emphasize the fundamentals of all mechanical, fuel, and electronic systems found on modern vehicles, and prepare students for service and management positions in the automotive industry.

Automotive Technology (Automotive Body)

Northern's fully certified auto body repair program instructs students on the latest skills and equipment currently at work in modern auto body repair facilities.

Business Technology

The business technology offerings give students a solid foundation in basic concepts and practices of professional business management. Areas of emphasis selected by the student allow them to pursue educational opportunities to meet their individual career goals.

Computer Engineering Technology

Computer Engineering Technology (CPET) includes a combination of computer hardware and software allowing the graduate to be successful in a career as a computer technician. Starting with a solid background in electronics, the program includes training in all aspects of computer system hardware, operating systems, networks, automatic control and overall computer systems organization. Graduates in Computer Engineering Technology will find a successful career designing, installing and maintaining computer installations and modern digital communications equipment. Students are able to emphasize general computer hardware, computer software, embedded systems or computer networks.

Computer Information Systems
The Computer Information System curricula provide learning opportunities for prospective user support specialists, trainers, applications programmers, programmer analysts, and systems analysts.

Design Drafting Technology
Northern's design drafting technology programs offer the beginning draftsperson skills necessary for employment at entry-level drafting jobs and expertise to operate their own reprographic and drafting services.

Diesel Technology
Students in the diesel technology program will be prepared for opportunities as service technicians, service managers, shop foremen, district representatives for major corporations, or self-employment.

Engineering Technology: Civil Engineering Technology
Opportunities in the Engineering Technology: Civil Engineering Technology program include possible emphases in: surveying, geographical information systems, global positioning systems, structural design, construction of facilities, and testing of building and transportation materials.

Engineering Technology: Electronics Engineering Technology
The Electronics Engineering Technology program provides instruction in electronic service skills required by development, manufacturing, and technical sales and support segments of biomedical, communications, microcomputer, and automation industries. Montana State University-Northern has a very active student branch of the largest and best-known international honorary and professional electronics organization--Institute of Electrical and Electronic Engineering (IEEE). TAC of ABET, the nationally recognized accrediting body for engineering technology programs, accredits the Engineering Technology: Electronics Engineering Technology AAS degree at Montana State University-Northern.

Industrial Technology
This is a dual track degree for those seeking employment in the technical fields of industry or for those pursuing teacher licensure in Industrial Technology education. Students will enroll in either the Industrial Technology track with a major in Industrial Technology and a minor in a field of his/her choice; or enroll in the Technology Education track, which prepares the graduate for teacher licensure. The teacher education student takes the necessary education courses in lieu of a minor.

Railroad Maintenance and Operation
MSU-Northern's one of a kind railroad maintenance and operation degree focuses on railroad history, crafts, operations, safety and environment, maintenance, and office operations.

School Business Administration
This two-year degree emphasizes the topics necessary for those individuals who want to enter some level of public school administration. It is designed specifically for those individuals who wish to work in the position of School Clerk. The program is designed to be mostly a summer session course offering that will gradually move into an internet course format.

Teaching Majors and Minors
The College of Technical Sciences, in conjunction with the College of Education, offers teaching majors business education and industrial technology, as well as teaching minors in computer information systems and business. Please see the College of Education section for these program listings and requirements.

College of Technical Sciences Faculty

Professors
Kevin Carlson
Virgil Hawkinson
Kevin Johnson
Gregory Kegel, Chair/Dean
Robert Miller
Lloyd Stallkamp
Thomas Welch

Associate Professors
Gregory Clouse
William Danley
Jerold Franson
James Howland
Terence Munson
Brenda Skornogoski
Lynn Stilger
Roger Stone
Lawrence Strizich
Darryll Thackeray

Assistant Professors
Daniel Koszuta
Suzanne Tilleman
Mary Verploegen
Lanny Wilke

Instructors
Wane Boysun

SUGGESTED PLAN OF STUDY

Associate of Applied Science Degree
Major in Ag Mech Tech

Freshman year	**F**	**S**
AGMT 130	3	
OR		
AGMT 210	3	
CIS 110	3	
DIES 104	3	
DIES 114	3	
ENGL 111	3	
METL 140	3	
AGMT 110		2
AGMT 120		3
OR		
AGMT 205		3
ATDI 134		4
DIES 115		4
MATH 112		3
OR		
MATH 110		4
Total	**18**	**16-17**

Sophomore year		
AGMT 210	3	
OR		
AGMT 130	3	
DIES 216	4	
DIES 262	2	
DIES 272	4	
METL 260	3	
AGMT 205		3
OR		
AGMT 120		3
ATDI 265		4
DIES 204		2
DIES 214		2
SPCH 141		3
OR		
SPCH 142		3
Dist Req Area B		3
Total	**16**	**17**

Minor in Accounting

Required Courses

ACCT 261 Principles of Accounting I 3
ACCT 262 Principles of Accounting II 3
ACCT 265 Income Tax** 3
ACCT 285 Accounting Systems* 3
ACCT 315 Intermediate Accounting I* 3
ACCT 316 Intermediate Accounting II* 3
ACCT 321 Managerial Accounting* 3
ACCT 407 Financial Statement Analysis* 3
BUS 271 Legal Environment of Business 3
BUS 350 Financial Management 3

Total credits required for minor 30

* Offered even dated years
** Offered odd dated years

Associate of Applied Science Degree Major in Agricultural Mechanics Technology

Credits

General Education Core Requirements 12-13
Some of these courses may be specified by your major, please consult with your academic advisor for more details.

Distribution Requirements 6
Some of these requirements will be filled by required courses in your major. Please consult your academic advisor for more details.

Required Courses

AGMT 110 Introduction to Agricultural Machines and Equipment 2
AGMT 120 Forage Implements 3
AGMT 130 Introduction to Agricultural Tractors 3
AGMT 205 Grain Harvesting Equipment 3
AGMT 210 Tillage and Planting Implements 3
ATDI 134 Auto/Diesel Electrical/Electronic Systems I 4
ATDI 265 Heating and Air Conditioning 4
DIES 104 Introduction to Diesel Engines 3
DIES 114 Introduction to Diesel Engines Lab 3
DIES 115 Introduction to Diesel Fuel Systems 4
DIES 204 Intro to Hydraulics and Pneumatics 2
DIES 214 Intro to Hydraulics and Pneumatics Lab 2
DIES 216 Heavy Duty Power Trains 4
DIES 262 Diesel Engine Diagnosis and Repair 2
DIES 272 Diagnosis of Diesel Engine and Repair Lab 4
METL 140 Introduction to Welding and Cutting 3
METL 260 Repair and Maintenance Welding 3

Total minimum required credits for degree 67

Minor in Agricultural Mechanics Technology

Required Courses

AGMT 120 Forage Implements....3
AGMT 130 Introduction to Agricultural Tractors....3
AGMT 205 Intro to Grain Harvesting Equipment....3
AGMT 210 Tillage and Planting Implements....2
AGMT 350 Agricultural Tractor & Equipment Applied Technology....4
AGMT 370 Advanced Grain Harvesting Equipment....4
DIES 420 Diesel Shop Management....2

Choose seven selective credits from the following list.

AG 101 Animal Science....3
AG 102 Plant Science....3
AG 204 Soils....4
DIES 104 Introduction to Diesel Engines....3
DIES 114 Introduction to Diesel Engines Lab....3
ATDI 134 Auto/Diesel Electrical/Electronic Systems I....4

Total credits required for minor....28

Departmental Certificate in Agricultural Mechanics Technology

Required Courses

AGMT 120 Forage Implements....3
AGMT 205 Introduction to Grain Harvesting Equipment....3
ATDI 134 Auto/Diesel Electrical/Electronic Systems I....4
DIES 104 Introduction to Diesel Engines....3
DIES 114 Introduction to Diesel Engines Lab....3
DIES 115 Introduction to Diesel Fuel Systems....4
DIES 204 Introduction to Hydraulic & Pneumatics....2
DIES 214 Introduction to Hydraulic & Pneumatics Lab....2
DIES 216 Heavy Duty Power Trains....4
DIES 219 Heavy Duty Chassis....4

Total credits required for certificate....31

SUGGESTED PLAN OF STUDY

Bachelor of Science Degree
Major in Agricultural Operations Technology

Freshman year	**F**	**S**
AG 101	3	
AG 102	3	
AG 150	3	
AOT 101	2	
ENGL 111	3	
SPCH 141	3	
AGMT 110		2
ATDI 134		4
CIS 171		3
MATH 110		4
OR		
MATH 112		3
TECH 100		2
Total	**18**	**14-15**

Sophomore year		
DIES 204	2	
DIES 214	2	
ENGL 112	3	
METL 140	3	
PHYS 114	4	
Program Selectives	3	
AG 204		4
AG 230		4
DRFT 244		3
Program Selectives		3
Total	**17**	**14**

Junior year		
AGED 353	3	
AOT 301	2	
ATDI 265	4	
BREN 330	2	
Dist Req Area B	3	
AG 305		3
AG 350		3
A&TE 333		3
MFGT 308		4
Program Selectives		3
Total	**14**	**16**

Senior year		
AG 440	3	
AGMT 410	4	
Dist Req Area A	3	
Program Selectives	3	
AMT 480		3
ARNR 450		3
TSCI 304		3
Dist Req Area A		3
Dist Req Area B		3
Total	**16**	**15**

Bachelor of Science Degree
Major in Agricultural Operations Technology

Credits

General Education Core Requirements 15-16
Some of these courses may be specified by your major, please consult with your academic advisor for more details.

Distribution Requirements 24
Some of these requirements will be filled by required courses in your major. Please consult your academic advisor for more details.

Required Courses

AG 101 Animal Science 3
AG 102 Plant Science 3
AG 150 Agricultural Computing 3
AG 204 Soils 4
AG 230 Agricultural Pest Management 4
AG 305 Agricultural Commodity Marketing 3
AG 350 Agricultural Computer Management 3
AG 440 Trends & Issues in Agriculture 3
AGED 353 Cooperative Business Principles** 3
AGMT 110 Introduction to Agricultural Machines/Equipment 2
AGMT 410 Agricultural Machinery Management* 3
AMT 480 Current Technology 3
AOT 101 Introduction to AOT** 2
AOT 301 Global Positioning Systems 2
ARNR 450 Range Watershed Management** 3
ATDI 134 Auto/Diesel Electrical/Electronic Systems I 4
ATDI 265 Heating & Air Conditioning 4
A&TE 333 Construction Technology** 3
BREN 330 Water Resources Law** 2
CIS 171 Database Level I 3
DIES 204 Introduction to Hydraulics/Pneumatics* 2
DIES 214 Introduction to Hydraulics/Pneumatics Lab 2
DRFT 244 Topographic Mapping & GIS Applications 3
METL 140 Introduction to Welding & Cutting 3
MFGT 308 Industrial Electronics 4
PHYS 114 Foundations of Physical Science 4
TECH 100 Industrial Safety/Waste Management 2
TSCI 304 Fuels and Lubricants 3

Select a minimum of 12 credits from one of the following options.

Agricultural Production Option Selectives

AG 100 Leadership Development 2
AG 125 Farm Management 3
AG 218 Crop Production 4
AG 244 Livestock Feeding 4
AG 245 Livestock Production 4
AG 254 Forage & Range Management 4
AG 479 Cooperative Education 6

Agribusiness Option Selectives

ACCT 261 Principles of Accounting I 3
AG 105 Agricultural Marketing & Economics.....3
BUS 100 Introduction to Business 3
BUS 271 Legal Environment of Business 3
BUS 300 Management in Organizations 3
BUS 410 International Business.....3
ECON 241 Microeconomic Principles 3

Agricultural Mechanics Option Selectives

AGMT 120 Forage Implements.....3
AGMT 130 Introduction to Tractors 3
AGMT 205 Introduction to Grain Harvesting Equipment.....3
AGMT 210 Tillage & Planting Implements 3
AGMT 479 Cooperative Education.....6
DIES 104 Introduction to Diesel Engines.....3
DIES 114 Introduction to Diesel Engines Lab 3

Total minimum credits required for degree.....120

*Classes to be offered via long distance technologies from MSU-Northern
** Classes to be offered via long distance technologies from MSU-Bozeman

SUGGESTED PLAN OF STUDY

Associate of Applied Science Degree
Major in Agricultural Tech

Fall or Spring ANY Semester

CIS 110	3
ENGL 111	3
SPCH 141	3
MATH 110	4
OR	
MATH 112	3
Total	**12-13**

Freshman year	**Fall**	**Spr**
AG 100	2	
AG 101	3	
AG 102	3	
AG 105	3	
AG 150	3	
AG 125		3
BIOL 151		4
OR		
CHEM 111		3
Selectives		6
Total	**14**	**12-13**

Sophomore year	**Fall**	**Spr**
AG 218	4	
AG 254	4	
Selectives	6	
AG 204		4
AG 230		4
AG 244		4
Total	**16**	**12**

Associate of Applied Science Degree Major in Agricultural Technology

Credits

General Education Core Requirements 12-13
Some of these courses may be specified by your major, please consult with your academic advisor for more details.

Distribution Requirements 6
Some of these requirements will be filled by required courses in your major. Please consult your academic advisor for more details.

Required Courses

AG 100 Leadership Development 2
AG 101 Animal Science 3
AG 102 Plant Science 3
AG 105 Agricultural Marketing & Economics 3
AG 125 Farm Management 3
AG 150 Agricultural Computing 3
AG 204 Soils 4
AG 218 Crop Production 4
AG 230 Agricultural Pest Management 4
AG 244 Livestock Feeding 4
AG 254 Forage and Range Management 4
BIOL 151 Essentials of Biology 4
OR
CHEM 111 General Chemistry 3

Select a minimum of 12 credits from one of the following options.

Agri-Business Option Selectives

ACCT 261 Principles of Accounting I 3
ACCT 262 Principles of Accounting II 3
AG 245 Livestock Production 4
AG 279 Cooperative Education 6
BUED 245 Personal Finance 3
BUS 100 Introduction to Business 3
BUS 250 Business Statistics 3
BUS 271 Legal Environment of Business 3
ECON 241 Microeconomic Principles 3

Agri-Technology Option Selectives

AG 279 Cooperative Education 6
AGMT 110 Introduction to Ag Machines/Equipment 2
AGMT 130 Introduction to Agricultural Tractors 3
ATDI 134 Auto/Diesel Electrical/Electronic Systems I 4
DIES 204 Introduction to Hydraulics & Pneumatics 2
DIES 214 Introduction to Hydraulics & Pneumatics Lab 2
DRFT 156 Introduction to CAD 3
DRFT 244 Topographic Mapping & GIS Applications 3
TECH 100 Industrial Safety/Waste Management 2
METL 140 Introduction to Welding and Cutting 3

Total minimum required credits for degree 64

Minor in Applied Agriculture

Required Courses
AG 101 Animal Science 3
AG 102 Plant Science 3
AG 125 Farm Management 3
AG 150 Agricultural Computing 3
AG 305 Commodity Marketing 3
AG 350 Ag Computer Management 3
AG 440 Trends and Issues in Agriculture 3

Select one of the following options.
Option A
AG 204 Soils 4
AG 218 Crop Production 4
Option B
AG 244 Livestock Feeding 4
AG 254 Forage and Range Management 4
Option C
AG 479 Cooperative Education 6

Total minimum credits required for minor 27

SUGGESTED PLAN OF STUDY

Associate of Science Degree Major in Automotive Tech (Automotive Body)

Freshman year			
Courses taken EITHER Semester			
CIS 110	3		
ENGL 111	3		
SPCH 141	3		
Freshman year		**Fall**	**Spr.**
BODY 140		2	
BODY 141		3	
BODY 142		3	
METL 154		3	
METL 140		3	
ART 151			3
ATDI 119			3
ATDI 120			3
BODY 143			3
BODY 144			3
Total	**9**	**14**	**15**

Sophomore year			
Courses taken EITHER Semester			
MATH 112	3		
OR			
MATH 110	4		
Sophomore year		**Fall**	**Spr**
ATDI 134		4	
BODY 215		3	
BODY 216		3	
ATDI 265			4
BODY 241			4
BODY 243			3
BODY 244			3
Total	**7**	**10**	**14**

Associate of Applied Science Degree Major in Automotive Technology (Automotive Body)

Credits

General Education Core Requirements 12-13
Some of these courses may be specified by your major, please consult with your academic advisor for more details.

Distribution Requirements 6
Some of these requirements will be filled by required courses in your major. Please consult your academic advisor for more details.

Required Courses

ART 151 Two-Dimensional Design II 3
ATDI 134 Auto/Diesel Electrical/Electronic Systems I 4
ATDI 265 Heating and Air Conditioning 4
AUTO 119 Automotive Braking Systems 3
AUTO 220 Automotive Steering and Suspension 4
BODY 140 Panel Adjustment and Glass 2
BODY 141 Introduction to Metal Refinishing 3
BODY 142 Metal Repair Lab 3
BODY 143 Refinishing 3
BODY 144 Refinishing Lab 3
BODY 215 Principles of Unibody Repair Fundamentals. 3
BODY 216 Unibody Repair Technology 3
BODY 241 Estimating 4
BODY 243 Shop Production 3
BODY 244 Shop Production Lab 3
METL 140 Introduction to Welding and Cutting 3
METL 154 Gas Arc Welding Processing 3

Total minimum credits required for degree 62

PLEASE NOTE: Students enrolling in this program may pay $20/semester in course fees. Those fees are in addition to tuition and other fees.

Minor in Automotive Technology (Automotive Body)

Required Courses

BODY 140 Panel Adjustment and Glass 2
BODY 141 Introduction to Metal Refinishing 3
BODY 142 Metal Repair Lab 3
BODY 143 Refinishing 3
BODY 144 Refinishing Lab 3
BODY 215 Principles of Unibody Repair Fundamentals 3
BODY 241 Estimating 4
BODY 354 Auto Body Shop Management Lab 3
ATDI 400 Shop Procedures 2

Total minimum credits required for minor 26

PLEASE NOTE: Students enrolling in this program may pay $20/semester in course fees. Those fees are in addition to tuition and other fees.

Departmental Certificate in Automotive Technology (Automotive Body)

Required Courses

BODY 140 Panel Adjustment and Glass 2
BODY 141 Introduction to Metal Refinishing 3
BODY 142 Metal Repair Lab 3
BODY 143 Refinishing 3
BODY 144 Refinishing Lab 3
BODY 215 Principles of Unibody Repair Fundamentals 3
BODY 216 Unibody Repair Technology 3
BODY 243 Shop Production 3
BODY 244 Shop Production Lab 3
METL 154 Gas Arc Welding Processing 3

Total minimum credits required for certificate 29

PLEASE NOTE: Students enrolling in this program may pay $20/semester in course fees. Those fees are in addition to tuition and other fees.

SUGGESTED PLAN OF STUDY

Bachelor of Science Degree Major in Automotive Tech

Freshman year			
Courses Taken EITHER Sem.			
CIS 110	3		
SPCH 141	3		
ENGL 111	3		
ATDI 134	4		
Freshman year		**Fall**	**Spr**
AUTO 117		4	
AUTO 128		4	
AUTO 115			1
AUTO 119			4
AUTO 151			3
AUTO 152			3
Selective or Minor			3
Total	**13**	**8**	**14**

Sophomore year			
Courses Taken EITHER Sem.			
MATH 110	4		
OR			
MATH 112	3		
Gen Ed	3		
ATDI 264	4		
ATDI 265	4		
Sophomore year		**Fall**	**Spr**
AUTO 220		4	
AUTO 251		3	
AUTO 252		3	
Selective		3	
OR			
Minor		3	
ATDI 257			4
Total	**14-15**	**13**	**4**

Junior year			
Courses Taken EITHER Sem.			
ENGL 112	3		
Gen Ed	9		
ATDI 384	4		
Junior year		**Fall**	**Spr**
ATDI 383		3	
ATDI 400		2	
OR			
Minor		2	
AUTO 355		3	
AUTO 457			4
Selective or Minor			3
Total	**16**	**8**	**7**

Senior year			
Courses Taken EITHER Sem.			
AUTO 488	3		
OR			
Minor	3		
Gen Ed	3		
Gen Ed	3		
OR			
Minor	3		
Senior year		**Fall**	**Spr**
AUTO 408		2	
AUTO 450			4
Total	**9**	**2**	**4**

Bachelor of Science Degree
Major in Automotive Technology

Credits

General Education Core Requirements 15-16
Some of these courses may be specified by your major, please consult with your academic advisor for more details.

Distribution Requirements 24
Some of these requirements will be filled by required courses in your major. Please consult your academic advisor for more details.

Required Courses

ATDI 134 Auto/Diesel Electrical/Electronic Systems I 4
ATDI 257 Automatics 4
ATDI 264 Auto/Diesel Electrical/Electronic Systems II 4
ATDI 265 Heating and Air Conditioning 4
ATDI 383 Alternative Automotive Power Systems 3
ATDI 384 Auto/Diesel Electrical/Electronic Systems III. 4
ATDI 400 Shop Procedures* 2
AUTO 115 Introduction to Automotive Service 1
AUTO 117 Automotive Manual Power Trains 4
AUTO 119 Automotive Braking Systems 4
AUTO 128 Engines 4
AUTO 151 Diagnosis and Tune Up 3
AUTO 152 Diagnosis and Tune Up Lab 3
AUTO 220 Automotive Steering and Suspension 4
AUTO 251 Computerized Engine Control Systems 3
AUTO 252 Computerized Engine Control Systems Lab 3
AUTO 355 Automotive Service Operations 3
AUTO 408 Current Trends in Mobility Technology 2
AUTO 450 Dyn. Testing/Computer Sys. Data Analysis 4
AUTO 457 Advanced Power Trains 4
AUTO 488 Automotive Practicum* 3
Selectives* 14

Selective List (14 credits required)*
At least one course must be upper division

ACCT 261 Principles of Accounting I 3
AUTO 479 Cooperative Education 3
BODY 140 Panel Adjustments and Glass 2
BODY 143 Refinishing 3
BODY 144 Refinishing Lab 3
BUS 250 Business Statistics 3
BUS 300 Management in Organizations 3
CIS 111 Integrated Business Applications 3
ENGL 366 Technical Writing and Editing 3
METL 140 Intro to Welding and Cutting 3
TSS 222 Customer Service 3

***Only required if no minor**

Total minimum credits required for degree 120

PLEASE NOTE: Students enrolling in this program may pay between $20 - $50/semester in course fees. Those fees are in addition to tuition and other fees.

Associate of Applied Science Degree Major in Automotive Technology

	Credits
General Education Core Requirements	**12-13**

Some of these courses may be specified by your major, please consult with your academic advisor for more details.

Distribution Requirements	**6**

Some of these requirements will be filled by required courses in your major. Please consult your academic advisor for more details.

Required Courses

ATDI 134 Auto/Diesel Electrical/Electronic Systems I	4
ATDI 257 Automatics	4
ATDI 264 Auto/Diesel Electrical/Electronic Systems II	4
ATDI 265 Heating and Air Conditioning	4
AUTO 115 Introduction to Automotive Service	1
AUTO 117 Automotive Manual Power Trains	4
AUTO 119 Automotive Braking Systems	4
AUTO 128 Engines	4
AUTO 151 Diagnosis and Tune Up	3
AUTO 152 Diagnosis and Tune Up Lab	3
AUTO 220 Automotive Steering and Suspension	4
AUTO 251 Computerized Engine Control Systems	3
AUTO 252 Computerized Engine Control Systems Lab	3
AUTO 255 Applied Service Technology	3
BODY 140 Panel Adjustments and Glass	2
Total minimum credits required for degree	**68**

TOYOTA T-TEN PROGRAM

Students enrolled in the T-Ten Program will complete those requirements above as listed for the Associate degree. In addition, sixteen weeks or 640 hours of cooperative education experience over two summers in a Toyota dealership is required. Students sponsored by Toyota dealers receive financial aid and scholarships. Further information is available upon request.

PLEASE NOTE: Students enrolling in this program may pay between $20 - $50/semester in course fees. Those fees are in addition to tuition and other fees.

SUGGESTED PLAN OF STUDY

Associate of Applied Science Degree
Major in Automotive Tech

Freshman year			
Courses Taken Either Semester			
SPCH 141	3		
CIS 110	3		
ENGL 111	3		
ATDI 134	4		
Freshman year		**Fall**	**Spr**
AUTO 117		4	
AUTO 128		4	
AUTO 115			1
AUTO 119			4
AUTO 151			3
AUTO 152			3
Total	**13**	**8**	**11**

Sophomore year			
Courses Taken Either Semester			
MATH 112	3		
OR			
MATH 110	4		
ATDI 264	4		
ATDI 265	4		
Dist Req	3		
Sophomore year		**Fall**	**Spr**
AUTO 220		4	
AUTO 251		3	
AUTO 252		3	
AUTO 255		3	
BODY 140		2	
ATDI 257			4
Total	**14-15**	**15**	**4**

Minor in Automotive Technology

AUTO 115 Introduction to Automotive Service 1
AUTO 117 Automotive Manual Power Trains 4
AUTO 151 Diagnosis and Tune Up 3
AUTO 152 Diagnosis and Tune Up Lab 3
AUTO 408 Current Trends in Mobility Tech 2
ATDI 134 Auto/Diesel Electrical/Electronic Systems I 4
ATDI 264 Auto/Diesel Electrical/Electronic Systems II 4
ATDI 383 Alternative Automotive Power Systems 3
ATDI 384 Auto/Diesel Electronics Applications 4
ATDI 400 Shop Procedures 2

Total minimum credits required for minor 30

PLEASE NOTE: Students enrolling in this program may pay between $20 - $50/semester in course fees. Those fees are in addition to tuition and other fees.

Certificate in Automotive Technology

Required Courses
ATDI 134 Auto/Diesel Electrical/Electronic System I 4
AUTO 115 Introduction to Automotive Service 1
AUTO 117 Automotive Manual Power Trains 4
AUTO 119 Automotive Braking Systems 4
AUTO 128 Engines 4
AUTO 151 Diagnosis and Tune Up 3
AUTO 152 Diagnosis and Tune Up Lab 3
BODY 140 Panel Adjustments and Glass 2
Selective 3

Selective List (One Class Required)
ENGL 111 Written Communication I 3
SPCH 141 Fundamentals of Speech 3
SPCH 142 Interpersonal Communication 3

Total minimum credits required for certificate 28

PLEASE NOTE: Students enrolling in this program may pay between $20 - $50/semester in course fees. Those fees are in addition to tuition and other fees.

Bachelor of Science Degree
Major in Business Technology

Minor required

Credits

General Education Core Requirements 15-16
Some of these courses may be specified by your major, please consult with your academic advisor for more details.

Distribution Requirements 24
Some of these requirements will be filled by required courses in your major. Please consult your academic advisor for more details.

Required Courses

ACCT 261 Principles of Accounting I 3
ACCT 262 Principles of Accounting II 3
BUS 110 Creative Problem Solving 3
BUS 120 Leadership & Quality Management 3
BUS 250 Business Statistics 3
BUS 271 Legal Environment of Business 3
BUS 300 Management in Organizations 3
BUS 332 Human Resource Management 3
BUS 335 Principles of Marketing 3
BUS 350 Financial Management 3
BUS 380 Operations Management 3
BUS 405 Ethics in Management & Technology 3
BUS 406 Management Information Systems 3
BUS 410 International Business 3
BUS 420 Business Policies 3
OR
BUS 430 Senior Project 3
ECON 241 Microeconomics 3
TSS 370 Technology, Innovation & Management 3

Total minimum credits required for degree 120

SUGGESTED PLAN OF STUDY

Bachelor of Science Degree
Major in Business Tech

Freshman year	**F**	**S**
BUS 110	3	
CIS 111	3	
ENGL 111	3	
Dist Req	6	
BUS 120		3
ENGL 112		3
MATH 110		4
OR		
MATH 112		3
SPCH 141		3
OR		
SPCH 142		3
Dist Req		6
Total	**15**	**18-19**
Sophomore year		
ACCT 261	3	
BUS 250	3	
ECON 241	3	
Dist Req	3	
Minor	3	
ACCT 262		3
BUS 271		3
Dist Req		6
Minor		3
Total	**15**	**15**
Junior year		
BUS 300	3	
BUS 350	3	
Minor	6	
BUS 332		3
BUS 335		3
BUS 380		3
TSS 370		3
Minor		6
Total	**12**	**18**
Senior year		
BUS 405	3	
BUS 410	3	
BUS 420	3	
OR		
BUS 430	3	
Minor	6	
BUS 406		3
Minor		6
Selective		3
Total	**15**	**12**

SUGGESTED PLAN OF STUDY

Associate of Science Degree Program in Business Tech

Freshman year	**F**	**S**
BUS 100	3	
BUS 110	3	
CIS 111	3	
ENGL 111	3	
MATH 110	4	
OR		
MATH 112	3	
BUS 120		3
ENGL 112		3
SPCH 141		3
OR		
SPCH 142		3
Dist Req		3
Electives		6
Total	**15-16**	**18**

Sophomore year		
ACCT 261	3	
BUS 250	3	
ECON 241	3	
Dist Req	3	
ACCT 262		3
BUED 245		3
BUS 271		3
Electives		6
Total	**12**	**15**

Associate of Science Degree With a Program of Study in Business Technology

Credits

General Education Core Requirements 12-13
Some of these courses may be specified by your major, please consult with your academic advisor for more details.

Distribution Requirements 6
Some of these requirements will be filled by required courses in your major. Please consult your academic advisor for more details.

Required Courses
ACCT 261 Principles of Accounting I 3
ACCT 262 Principles of Accounting II 3
BUED 245 Personal Finance 3
BUS 100 Introduction to Business 3
BUS 110 Creative Problem Solving 3
BUS 120 Leadership & Quality Management 3
BUS 250 Business Statistics 3
BUS 271 Legal Environment of Business 3
ECON 241 Microeconomics 3
ENGL 112 Written Communication II 3

Total minimum credits required for degree 60

Minor in Business Technology

Required Courses
ACCT 261 Principles of Accounting I 3
BUS 100 Introduction to Business 3
BUS 110 Creative Problem Solving 3
BUS 120 Leadership and Quality Management 3
BUS 271 Legal Environment of Business 3
BUS 300 Management in Organizations 3
BUS 335 Principles of Marketing 3
BUS 350 Financial Management 3
BUS 410 International Business 3
ECON 241 Microeconomic Principles 3

Total minimum credits required for degree 30

Bachelor of Science Degree
Major in Engineering Technology: Civil Engineering Technology

Credits

General Education Core Requirements 15-16
Some of these courses may be specified by your major, please consult with your academic advisor for more details.

Distribution Requirements 24
Some of these requirements will be filled by required courses in your major. Please consult your academic advisor for more details.

Required Courses

CET 173 Architectural Construction & Materials 3
CET 181 Surveying 3
CET 220 Construction Management & Bid Estimation 3
CET 221 Engineering Mechanics 3
CET 232 Strength of Materials 3
CET 305 Engineering Economics 3
CET 307 Structural Analysis 3
CET 315 Soil Mechanics and Foundations 4
CET 361 Design/Details of Steel Buildings 4
CET 375 Applied Fluid Mechanics 3
CET 385 Highway Design 4
CET 411 Reinforced Concrete Design & Details 4
CHEM 111 General Chemistry 3
CIS 171 Database Level I 3
CIS 410 Decision Support Systems 3
DRFT 131 Technical Graphics I 4
DRFT 156 Introduction to CAD 3
DRFT 244 Topographic Mapping & GIS Applications 3
EET 110 Electronics Survey I 3
IET 100 Introduction to Industrial & Engineering Technology 3
IET 480 Senior Project I 1
IET 481 Senior Project II 2
MATH 125 Trigonometry 2
MATH 133 Introduction to Calculus 3
MATH 220 Calculus & Analytic Geometry I 5
METL 215 Metallurgy/Manufacturing Materials 3
MFGT 427 Quality Assurance 2
PHYS 231 Fundamentals of Physics I 3
PHYS 234 Fundamentals of Physics I Lab 1
TECH 100 Industrial Safety/Waste Management 2

Total minimum credits required for degree 124

PLEASE NOTE: Students enrolling in this program may pay between $12 - $30/semester in course fees. Those fees are in addition to tuition and other fees.

SUGGESTED PLAN OF STUDY

Bachelor of Science Degree
Major in Engineering Tech: Civil Engineering Tech

Freshman year	**F**	**S**
CET 173	3	
CIS 110	3	
DRFT 131	4	
IET 100	3	
MATH 112	3	
CIS 171		3
DRFT 156		3
EET 110		3
MATH 125		2
TECH 100		2
Dist Req Area A/B		3
Total	**16**	**16**
Sophomore year		
CET 220	3	
CET 221	3	
ENGL 111	3	
METL 215	3	
PHYS 231	3	
PHYS 234	1	
CET 181		3
CET 232		3
CHEM 111		3
DRFT 244		3
MATH 133		3
SPCH 141		3
Total	**16**	**18**
Junior year		
CET 307	3	
CET 375	3	
CET 385	4	
MATH 220	5	
CET 305		3
CET 315		4
CIS 410		3
ENGL 112		3
Dist Req Area A/B		3
Total	**15**	**16**
Senior year		
CET 361	4	
IET 480	1	
MFGT 427	3	
Dist Req (300-400 level Area A/B)	3	
Math/Sci. Elective	4	
CET 411		4
IET 481		2
Dist Req (300-400 level Area A/B)		3
Dist Req Area A/B		3
Total	**15**	**12**

SUGGESTED PLAN OF STUDY

Associate of Applied Science Degree
Major in Engineering Tech: Civil Engineering Tech

Freshman year	**F**	**S**
CET 173	3	
CIS 110	3	
DRFT 131	4	
IET 100	3	
MATH 112	3	
CIS 171		3
DRFT 156		3
EET 110		3
MATH 125		2
TECH 100		2
Dist Req (Area A/B)		3
Total	**16**	**16**

Sophomore year		
CET 220	3	
CET 221	3	
ENGL 111	3	
PHYS 231	3	
PHYS 234	1	
METL 215	3	
CET 181		3
CET 232		3
CHEM 111		3
DRFT 244		3
MATH 133		3
SPCH 141		3
Total	**16**	**18**

Associate of Applied Science Degree Major in Engineering Technology: Civil Engineering Technology

Credits

General Education Core Requirements..... 12-13
Some of these courses may be specified by your major, please consult with your academic advisor for more details.

Distribution Requirements 6
Some of these requirements will be filled by required courses in your major. Please consult your academic advisor for more details.

Required Courses
CET 173 Architectural Construction & Materials.....3
CET 181 Surveying.....3
CET 220 Construction Management & Bid Estimation.....3
CET 221 Engineering Mechanics.....3
CET 232 Strength of Materials.....3
CHEM 111 General Chemistry.....3
CIS 171 Database Level I.....3
DRFT 131 Technical Graphics I.....4
DRFT 156 Introduction to CAD.....3
DRFT 244 Topographic Mapping & GIS Applications.....3
EET 110 Electronics Survey I.....3
IET 100 Intro to Industrial & Engineering Technology.....3
MATH 125 Trigonometry.....2
MATH 133 Introduction to Calculus.....3
METL 215 Metallurgy/Manufacturing Materials.....3
PHYS 231 Fundamentals of Physics I.....3
PHYS 234 Fundamentals of Physics I Lab.....1
TECH 100 Industrial Safety/Waste Management.....2

Total minimum credits required for degree..... 66

PLEASE NOTE: Students enrolling in this program may pay between $12 - $30/semester in course fees. Those fees are in addition to tuition and other fees.

Minor in Engineering Technology: Civil Engineering Technology

Choose one of the following options.
GIS Option

CET 181 Surveying 3
CET 305 Engineering Economics 3
CET 385 Highway Design & Construction 4
CIS 171 Database Level I 3
CIS 410 Decision Support Systems 3
DRFT 244 Topographic Mapping & GIS Applications 3
IET 100 Intro to Industrial & Engineering Technology 3

Structures Option

CET 221 Engineering Mechanics 3
CET 232 Strength of Materials 3
CET 305 Engineering Economics 3
CET 307 Structural Analysis 3
CET 361 Design and Details of Steel Buildings 4
CET 411 Reinforced Concrete Design & Details 4
IET 100 Intro to Industrial & Engineering Technology 3

Total minimum credits required for minor 22

PLEASE NOTE: Students enrolling in this program may pay between $12 - $30/semester in course fees. Those fees are in addition to tuition and other fees.

SUGGESTED PLAN OF STUDY

Bachelor of Science Degree
Major in Computer Eng Tech

Freshman year	**F**	**S**
CIS 111	3	
ENGL 111	3	
IET 100	3	
EET 101	5	
MATH 112	3	
CIS 115		3
EET 103		5
ENGL 112		3
MATH 125		2
Electives (Soc/Sci)		3
Total	**17**	**16**
Sophomore year		
CIS 155	3	
CPET 260	3	
EET 207	5	
PHYS 231	3	
PHYS 234	1	
SPCH 141	3	
OR		
SPCH 142	3	
CPET 201		3
CPET 301		3
EET 204		4
MATH 133		3
Dist Req Area B		3
Total	**18**	**16**
Junior year		
CIS 360	3	
EET 305	3	
MATH 220	5	
CIS 255		3
Elective (300-400)		6
MATH/SCI Elective		4
Dist Req Area A		3
Total	**11**	**16**
Senior year		
CIS 300	3	
EET 450	3	
CIS Elective (UD)	3	
Elective (300-400)	6	
EET 401		3
EET 430		3
Electives		3
Dist Req Area A		3
Dist Req Area B		3
Total	**15**	**15**

Bachelor of Science Degree
Major in Computer Engineering Technology

Credits

General Education Core Requirements 15
Some of these courses may be specified by your major, please consult with your academic advisor for more details.

Distribution Requirements 24
Some of these requirements will be filled by required courses in your major. Please consult your academic advisor for more details.

Required Courses

CIS 111 Integrated Business Applications 3
CIS 115 Introduction to Programming 3
CIS 155 Programming Level I 3
CIS 255 Programming Level II 3
CIS 300 Operating Systems Introduction 3
CIS 360 Bus Telecommunications & Networking 3
CPET 201 Computer Hardware I 3
CPET 260 Networking I 3
CPET 301 Discrete Mathematics 3
EET 101 Intro to Electricity/Electronics 5
EET 103 Electronic Fundamentals I 5
EET 204 Electronic Fundamentals II 4
EET 207 Digital Fundamentals 5
EET 305 Digital Systems 3
EET 401 Interfacing – (Senior Project) 3
EET 430 Adv Communication Systems (Dig) 3
EET 450 Advanced Digital Systems 3
IET 100 Intro to Industrial & Engineering Tech 3
MATH 125 Trigonometry 2
MATH 133 Introduction to Calculus 3
MATH 220 Calculus & Analytic Geometry I 5
PHYS 231 Fundamentals of Physics I 3
PHYS 234 Fundamentals of Physics I Lab 1

Total minimum credits required for degree 124

Associate of Applied Science Degree
Major in Computer Engineering Technology

Credits

General Education Core Requirements 15
Some of these courses may be specified by your major, please consult with your academic advisor for more details.

Distribution Requirements 6
Some of these requirements will be filled by required courses in your major. Please consult your academic advisor for more details.

Required Courses

CIS 111 Integrated Business Applications 3
CIS 115 Introduction to Programming 3
CIS 155 Programming Level I 3
CPET 201 Computer Hardware I 3
CPET 301 Discrete Mathematics 3
CPET 260 Networking I 3
EET 101 Intro to Electricity/Electronics 5
EET 103 Electronic Fundamentals I 5
EET 204 Electronic Fundamentals II 4
EET 207 Digital Fundamentals 5
IET 100 Intro to Industrial & Engineering Tech 3
MATH 125 Trigonometry 2
MATH 133 Introduction to Calculus 3
PHYS 231 Fundamentals of Physics I 3
PHYS 234 Fundamentals of Physics I Lab 1

Total minimum credits required for degree 67

SUGGESTED PLAN OF STUDY

Associate of Applied Science Degree
Major in Computer Eng Tech

Freshman year	**F**	**S**
CIS 111	3	
ENGL 111	3	
IET 100	3	
EET 101	5	
MATH 112	3	
CIS 115		3
EET 103		5
ENGL 112		3
MATH 125		2
Electives (Soc/Sci)		3
Total	**17**	**16**

Sophomore year		
CIS 155	3	
CPET 260	3	
EET 207	5	
PHYS 231	3	
PHYS 234	1	
SPCH 141	3	
OR		
SPCH 142	3	
CPET 201		3
CPET 301		3
EET 204		4
MATH 133		3
Dist Req Area B		3
Total	**18**	**16**

SUGGESTED PLAN OF STUDY

Bachelor of Arts Degree
Major in Computer Info Sys

Freshman year	**F**	**S**
CIS 111	3	
ENGL 111	3	
SPCH 142	3	
CIS 112	3	
Electives	3	
CIS 115		3
CIS 171		3
DRFT 156		3
MATH 110		4
OR		
MATH 112		3
Electives		3
Total	**15**	**15/16**

Sophomore year		
CIS 155	3	
CIS 270	3	
CIS 285	3	
Electives	6	
BUS 250		3
CIS 255		3
CIS 271		3
Electives		6
Total	**15**	**15**

Junior year		
CIS 355	3	
CIS 360	3	
CIS 371	3	
EET 305	3	
ENGL 112	3	
CIS 325		3
CIS 455		3
Dist Req Area A-B		6
CIS 300		3
Total	**15**	**15**

Senior year		
EET 450	3	
Dist Req Lab Science	3	
Electives (300-400)	3	
Electives	3	
Dist Req Area A-B	3	
CIS 410		3
CIS 471		3
Dist Req Area A-B		3
Electives		6
Total	**15**	**15**

Bachelor of Arts Degree
Major in Computer Information Systems

Credits

General Education Core Requirements……15-16
Some of these courses may be specified by your major, please consult with your academic advisor for more details.

Distribution Requirements 24
Some of these requirements will be filled by required courses in your major. Please consult your academic advisor for more details.

Required Courses
BUS 250 Business Statistics.....3
CIS 111 Integrated Business Applications 3
CIS 112 Computer Systems Introduction 3
CIS 115 Introduction to Programming 3
CIS 155 Programming Level I.....3
CIS 171 Database Level I.....3
CIS 255 Programming Level II 3
CIS 270 Systems Analysis and Design.....3
CIS 271 Software Engineering 3
CIS 285 Spreadsheet.....3
CIS 300 Operating Systems Introduction 3
CIS 325 Information Resource Management 3
CIS 355 Programming III 3
CIS 360 Bus Telecommunications & Networking 3
CIS 371 Database Level II.....3
CIS 410 Enterprise Resource Planning.....3
CIS 455 E-commerce Programming.....3
CIS 471 Information System Engineering.....3
DRFT 156 Introduction to CAD.....3
EET 305 Digital Systems 3
EET 450 Advanced Digital Systems 3
Electives 30

Total minimum credits required for degree 120

Associate of Applied Science Degree Major in Computer Information Systems

Credits

General Education Core Requirements 12-13
Some of these courses may be specified by your major, please consult with your academic advisor for more details.

Distribution Requirements 6
Some of these requirements will be filled by required courses in your major. Please consult your academic advisor for more details.

Required Courses
BUS 250 Business Statistics 3
CIS 111 Integrated Business Applications 3
CIS 115 Introduction to Programming 3
CIS 155 Programming Level I 3
CIS 171 Database Level I 3
CIS 270 Systems Analysis and Design 3
CIS 271 Software Engineering 3
CIS 255 Programming Level II 3
CIS 285 Spreadsheet 3
DRFT 156 Introduction to CAD 3

Total minimum credits required for degree 60

Minor in Computer Information Systems

Required Courses
CIS 115 Introduction to Programming 3
CIS 155 Programming Level I 3
CIS 171 Database Level I 3
CIS 255 Programming Level II 3
CIS 285 Spreadsheet 3
CIS 325 Information Resource Management 3
CIS 360 Business Telecommunications & Networking 3
CIS 410 Enterprise Resource Planning 3

Choose six (6) credits from the following:
CIS 300 Operating Systems Introduction 3
CIS 355 Programming III 3
CIS 371 Database Level II 3
CIS 455 E-commerce Programming 3

Total minimum credits required for minor 30

SUGGESTED PLAN OF STUDY

Associate of Applied Science Degree
Major in Computer Info Sys

Freshman year	**F**	**S**
CIS 111	3	
ENGL 111	3	
SPCH 142	3	
Electives	6	
CIS 115		3
CIS 171		3
DRFT 156		3
MATH 110		4
OR		
MATH 112		3
Electives		2/3
Total	**15**	**14-16**
Sophomore year		
BUS 250	3	
CIS 155	3	
CIS 270	3	
CIS 285	3	
Elective	3	
CIS 255		3
CIS 271		3
Electives		9
Total	**15**	**15**

SUGGESTED PLAN OF STUDY

Bachelor of Science Degree Major in Design Drafting Technology

Freshman year	**F**	**S**
CET 173	3	
CIS 110	3	
DRFT 131	4	
MATH 112	3	
METL 155	3	
DRFT 132		3
DRFT 156		3
EET 110		3
ENGL 111		3
MATH 125		2
SPCH 141		3
Total	**16**	**17**
Sophomore year		
DRFT 201	3	
DRFT 256	3	
MFGT 200	3	
PHYS 231 (Des Track)	3	
AND		
PHYS 234 (Des. Track)	1	
AND		
CET 221 (Des. Track)	3	
OR		
PHYS 114 (Tech Track)	4	
AND		
Advisor Approved Elective (Tech Track)	3	
CIS 171		3
DRFT 205		3
DRFT 244		3
CET 181 (Des. Track)		3
AND		
Advisor Approved Elective (Des. Track)		3
OR		
Advisor Approved Elective (Tech Track)		6
Total	**16**	**15**
Junior year		
Dist Req (ART Area A)	3	
DRFT 336	3	
Elective (300-400 level)	3	
ENGL 112	3	
MFGT 341	3	
Dist Req (Area A/B)		3
DRFT 356		4
DRFT 416		3
MFGT 342		3
Total	**15**	**13**
Senior year		
CET 385	4	
IET 480	1	
Dist Req. (Area A/B)	3	
DRFT 328	3	
DRFT 409	3	
Elective	3	
Dist Req (Area A/B		3
DRFT 456		3
DRFT 457		3
IET 481		2
Total	**17**	**11**

Bachelor of Science Degree
Major in Design Drafting Technology

Credits

General Education Core Requirements..... 15-16
Some of these courses may be specified by your major, please consult with your academic advisor for more details.

Distribution Requirements 24
Some of these requirements will be filled by required courses in your major. Please consult your academic advisor for more details.

Required Courses
CET 173 Architectural Construction & Materials 3
CET 385 Highway Design & Construction 4
CIS 171 Database Level I.....3
DRFT 131 Technical Graphics I.....4
DRFT 132 Descriptive Geometry.....3
DRFT 156 Introduction to CAD.....3
DRFT 201 Residential Drafting.....3
DRFT 205 Machine Drafting.....3
DRFT 244 Topographic Mapping & GIS Applications 3
DRFT 256 3D CAD.....3
DRFT 328 Technical Illustration.....3
DRFT 336 Process Piping 3
DRFT 356 CAD Presentation.....4
DRFT 409 Industrial Product Design 3
DRFT 416 Industrial CAD Modeling.....3
DRFT 456 CAD Presentation II 3
DRFT 457 Architectural CAD.....3
EET 110 Electronics Survey I 3
IET 480 Senior Project I.....1
IET 481 Senior Project II.....2
MATH 125 Trigonometry 2
METL 155 Machining Processes.....3
MFGT 200 Manufacturing Processes.....3
MFGT 341 CAD/CAM Applications 3
MFGT 342 CAD/CAM II.....3

Choose one of the following tracks.
Design Drafting Track
CET 181 Surveying 3
CET 221 Engineering Mechanics I.....3
Advisor Approved Elective 3
PHYS 231 Fundamentals of Physics 3
PHYS 234 Fundamentals of Physics Lab 1

Drafting Technology Track
Advisor Approved Electives.....9
PHYS 114 Foundations of Physical Science 4

Total minimum credits required for degree.....120

PLEASE NOTE: Students enrolling in this program may pay between $14 - $30/semester in course fees. Those fees are in addition to tuition and other fees.

Associate of Applied Science Degree
Major in Design Drafting Technology

Credits

General Education Core Requirements 12-13
Some of these courses may be specified by your major, please consult with your academic advisor for more details.

Distribution Requirements 6
Some of these requirements will be filled by required courses in your major. Please consult your academic advisor for more details.

Required Courses
CET 173 Architectural Construction & Materials 3
CIS 171 Database Level I 3
DRFT 131 Technical Graphics I 4
DRFT 132 Descriptive Geometry 3
DRFT 156 Introduction to CAD 3
DRFT 201 Residential Drafting 3
DRFT 205 Machine Drafting 3
DRFT 244 Topographic Mapping & GIS Applications 3
DRFT 256 3D CAD 3
EET 110 Electronics Survey I 3
MATH 125 Trigonometry 2
METL 155 Machining Processes 3
MFGT 200 Manufacturing Processes 3

Choose one of the following tracks.
Design Drafting Track
CET 181 Surveying 3
CET 221 Engineering Mechanics I 3
Advisor Approved Elective 3
PHYS 231 Fundamentals of Physics 3
PHYS 234 Fundamentals of Physics Lab 1

Drafting Technology Track
Advisor Approved Electives 9
PHYS 114 Foundations of Physical Science 4

Total minimum credits required for degree 64

PLEASE NOTE: Students enrolling in this program may pay between $14 - $30/semester in course fees. Those fees are in addition to tuition and other fees.

SUGGESTED PLAN OF STUDY

Associate of Applied Science Degree
Major in Design Drafting Technology

Freshman year	**F**	**S**
CET 173	3	
CIS 110	3	
DRFT 131	4	
MATH 112	3	
METL 155	3	
DRFT 132		3
DRFT 156		3
EET 110		3
ENGL 111		3
MATH 125		2
SPCH 141		3
Total	**16**	**17**

Sophomore year		
DRFT 201	3	
DRFT 256	3	
MFGT 200	3	
PHYS 231&234 (Des. Track)	4	
AND		
CET 221 (Des. Track)	3	
OR		
PHYS 114 (Tech Track)	4	
AND		
Advisor Approved Elective (Tech Track)	3	
CIS 171		3
DRFT 205		3
DRFT 244		3
CET 181 (Des. Track)		3
AND		
Advisor Approved Elective (Des. Track)		3
OR		
Advisor Approved Elective (Tech Track)		6
Total	**17**	**15**

Minor in Design Drafting Technology

Required Courses

DRFT 131 Technical Graphics I 4
DRFT 132 Descriptive Geometry 3
DRFT 156 Introduction to CAD 3
DRFT 201 Residential Drafting 3
DRFT 205 Machine Drafting 3
DRFT 256 3D CAD 3

Choose 9 credits of the following selectives.

CET 385 Highway Design & Construction 4
DRFT 328 Technical Illustration 3
DRFT 336 Process Piping 3
MFGT 341 CAD/CAM Applications 3
DRFT 356 CAD Presentation 4
DRFT 409 Industrial Product Design 3
DRFT 416 Industrial CAD Modeling 3
DRFT 457 Architectural CAD 3
IET 480 Senior Project I 1
AND
IET 481 Senior Project II 2

Total credits required for minor 28

PLEASE NOTE: Students enrolling in this program may pay between $14 - $30/semester in course fees. Those fees are in addition to tuition and other fees.

Bachelor of Science Degree
Major in Diesel Technology

Credits

General Education Core Requirements 15-16
Some of these courses may be specified by your major, please consult with your academic advisor for more details.

Distribution Requirements 24
Some of these requirements will be filled by required courses in your major. Please consult your academic advisor for more details.

Required Courses

ATDI 134 Auto/Diesel Electrical/Electronic System I 4
ATDI 257 Automatics 4
ATDI 264 Auto/Diesel Electrical/Electronic Systems II 4
ATDI 265 Heating and Air Conditioning 4
ATDI 384 Auto/Diesel Electronics Applications 4
ATDI 400 Shop Procedures 2
DIES 104 Introduction to Diesel Engines 3
DIES 114 Introduction to Diesel Engines Lab 3
DIES 115 Intro to Diesel Fuel Systems 4
DIES 204 Introduction to Hydraulics and Pneumatics 2
DIES 214 Intro to Hydraulics and Pneumatics Lab 2
DIES 216 Heavy Duty Power Trains 4
DIES 219 Heavy Duty Chassis 4
DIES 262 Diesel Engine Diagnosis &Repair 2
DIES 272 Diagnosis of Diesel Engine & Repair Lab 4
DIES 273 Diesel Shop Practices 4
DIES 314 Hydraulics and Pneumatics II 4
DIES 420 Diesel Shop Management 2
DIES 440 Advanced Fuel Systems 4
DIES 434 Current Model Year Technology 3
DIES 450 Diagnosis of Power Shifts & Heavy Duty Automatics 4
METL 140 Intro to Welding & Cutting* 3
METL 155 Machining Processes* 3
METL 260 Repair and Maintenance Welding* 3
TSCI 304 Fuels and Lubricants 3

***Only required if no minor**

Total minimum credits required for degree 120

PLEASE NOTE: Students enrolling in this program may pay between $15 - $40/semester in course fees. Those fees are in addition to tuition and other fees.

SUGGESTED PLAN OF STUDY

Bachelor of Science Degree
Major in Diesel Technology

Freshman year			
Courses Taken Either Semester			
METL 140	3		
ENGL 111	3		
SPCH 141	3		
Freshman year		**Fall**	**Spr**
ATDI 134		4	
DIES 104		3	
AND			
DIES 114		3	
OR			
DIES 115		4	
DIES 204		2	
DIES 214		2	
DIES 104			3
AND			
DIES 114			3
OR			
DIES 115			4
ATDI 265			4
Total	**9**	**12-14**	**8-10**

Sophomore year			
Courses Taken Either Semester			
Gen Ed	3		
MATH 110	4		
OR			
MATH 112	3		
CIS 110	3		
Sophomore year		**Fall**	**Spr**
ATDI 264		4	
DIES 216		4	
DIES 262		2	
DIES 272		4	
ATDI 257			4
DIES 219			4
DIES 273			4
Total	**9-10**	**14**	**12**

Junior year			
Courses Taken Either Semester			
ATDI 384	4		
ENGL 112	3		
ENGL 366	3		
METL 155	3		
Gen Ed	6		
Junior year		**Fall**	**Spr**
METL 260		3	
DIES 314			4
Total	**19**	**3**	**4**

Senior year			
Courses Taken Either Semester			
TSCI 304	3		
Gen Ed	3		
Senior year		**Fall**	**Spr**
ATDI 400		2	
DIES 420		2	
DIES 440		4	
DIES 434			3
DIES 450			4
Electives			6
OR			
DIES 479			6
Total	**6**	**8**	**13**

SUGGESTED PLAN OF STUDY

Associate of Applied Science Degree
Major in Diesel Technology

Freshman year			
Courses Taken Either Semester			
SPCH 141	3		
ENGL 111	3		
METL 140	3		
Freshman year		**Fall**	**Spr**
DIES 104		3	
AND			
DIES 114		3	
OR			
DIES 115		4	
ATDI 134		4	
DIES 204		2	
DIES 214		2	
DIES 104			3
AND			
DIES 114			3
OR			
DIES 115			4
ATDI 265			4
Total	**9**	**14-15**	**10-11**

Sophomore year			
Courses Taken Either Semester			
MATH 112	3		
OR			
MATH 110	4		
CIS 110	3		
Dist Req	3		
Sophomore year		**Fall**	**Spr**
ATDI 264		4	
DIES 216		4	
DIES 262		2	
DIES 272		4	
ATDI 257			4
DIES 219			4
DIES 273			4
Total	**9-10**	**14**	**12**

Associate of Applied Science Degree Major in Diesel Technology

Credits

General Education Core Requirements..... 12-13
Some of these courses may be specified by your major, please consult with your academic advisor for more details.

Distribution Requirements 6
Some of these requirements will be filled by required courses in your major. Please consult your academic advisor for more details.

Required Courses
ATDI 134 Auto/Diesel Electrical/Electronic Systems I 4
ATDI 257 Automatics 4
ATDI 264 Auto/Diesel Electrical/Electronic Systems II 4
ATDI 265 Heating and Air Conditioning 4
DIES 104 Introduction to Diesel Engines.....3
DIES 114 Introduction to Diesel Engines Lab 3
DIES 115 Introduction to Diesel Fuel Systems 4
DIES 204 Introduction to Hydraulics and Pneumatics 2
DIES 214 Introduction to Hydraulics and Pneumatics Lab 2
DIES 216 Heavy Duty Power Trains.....4
DIES 219 Heavy Duty Chassis.....4
DIES 262 Diesel Engine Diagnosis & Repair 2
DIES 272 Diagnosis of Diesel Engine Repair Lab 4
DIES 273 Diesel Shop Practices.....4
METL 140 Introduction to Welding and Cutting 3

Total minimum credits required for degree.....66

PLEASE NOTE: Students enrolling in this program may pay between $15 - $40/semester in course fees. Those fees are in addition to tuition and other fees.

Minor in Diesel Technology

Required Courses
DIES 104 Introduction to Diesel Engines.....3
DIES 114 Introduction to Diesel Engines Lab 3
DIES 115 Introduction to Diesel Fuel Systems 4
DIES 204 Introduction to Hydraulics and Pneumatics 2
DIES 214 Introduction to Hydraulics and Pneumatics Lab 2

Choose 10 credits from the following list of selectives.
DIES 450 Diagnosis of Power Shifts and H.D. Automatics 4
DIES 440 Advanced Fuel Systems.....4
DIES 314 Hydraulics and Pneumatics II 4
DIES 420 Diesel Shop Management 2
DIES 434 Current Model Year Technology 3

Total credits required for minor 21

PLEASE NOTE: Students enrolling in this program may pay between $15 - $40/semester in course fees. Those fees are in addition to tuition and other fees.

Associate of Applied Science Degree Major in Engineering Technology: Electronics Engineering Technology

Credits

General Education Core Requirements 12-13
Some of these courses may be specified by your major, please consult with your academic advisor for more details.

Distribution Requirements 6
Some of these requirements will be filled by required courses in your major. Please consult your academic advisor for more details.

Required Courses

CIS 115 Introduction to Programming 3
DRFT 156 Introduction to CAD 3
EET 101 Introduction to Electricity/Electronics 5
EET 103 Electronic Fundamentals I 5
EET 204 Electronic Fundamentals II 4
EET 205 Communications Fundamentals 4
EET 206 Electronics Equipment Design & Fabrication 4
EET 207 Digital Fundamentals 5
IET 100 Introduction to Industrial & Engineering Technology 3
MATH 125 Trigonometry 2
MATH 133 Introduction to Calculus 3
PHYS 231 Fundamentals of Physics I 3
PHYS 234 Fundamentals of Physics I Lab 1
PHYS 232 Fundamentals of Physics II 3
PHYS 235 Fundamentals of Physics II Lab 1
Distribution Requirement Area B (ABET Req) 3

Total minimum credits required for degree 67

PLEASE NOTE: Students enrolling in this program may pay between $15 - $25/semester in course fees. Those fees are in addition to tuition and other fees.

SUGGESTED PLAN OF STUDY

Associate of Applied Science Degree
Major in Engineering Tech: Electronics Eng Tech

Freshman year	**F**	**S**
EET 101	5	
ENGL 111	3	
IET 100	3	
MATH 112	3	
SPCH 141	3	
OR		
SPCH 142	3	
CIS 110		3
DRFT 156		3
EET 103		5
ENGL 112		3
MATH 125		2
Total	**17**	**16**

Sophomore year		
CIS 115	3	
EET 205	4	
EET 207	5	
PHYS 231	3	
PHYS 234	1	
EET 204		4
EET 206		4
MATH 133		3
PHYS 232		3
PHYS 235		1
Dist Req Area B (ABET Req)		3
Total	**16**	**18**

Minor in Marketing: Technical Sales and Service

Required Courses

BUS 110 Creative Problem Solving 3
BUS 300 Management in Organizations 3
BUS 332 Human Resource Management 3
BUS 335 Principles of Marketing 3
TSS 222 Customer Service 3
TSS 246 Technical Sales 3
TSS 248 Retail/Distributorship 3
TSS 336 Sales and Sales Management 3
TSS 370 Technology, Innovation & Management 3
TSS 408 Technical Sales Seminar 3

Total credits required for minor 30

Bachelor of Science Degree
Major in Industrial Technology

Non-Teaching
Minor Required

Credits

General Education Core Requirements 15-16
Some of these courses may be specified by your major, please consult with your academic advisor for more details.

Distribution Requirements 24
Some of these requirements will be filled by required courses in your major. Please consult your academic advisor for more details.

Required Courses
AUTO 128 Engines 4
BUS 300 Management in Organizations 3
CET 209 Introduction to Woodworking 3
CET 173 Architectural Construction & Materials 3
CET 213 Carpentry 3
CIS 360 Business Telecommunications & Networking 3
DRFT 131 Technical Graphics I 4
DRFT 156 Introduction to CAD 3
EET 110 Electronics Survey I 3
EET 305 Digital Systems 3
EET 450 Advanced Digital Systems 3
IT 110 Production Technology 3
IT 120 Communication Technology 3
IT 130 Construction Technology 3
IT 210 Energy/Power Technology 3
METL 140 Introduction to Welding and Cutting 3
METL 155 Machining Processes 3
MFGT 427 Quality Assurance 3
TECH 100 Industrial Safety/Waste Management 2

Total minimum credits required for degree 120

Departmental Certificate in Land Surveying Technology (GIS)

Associate of Applied Science degree or higher in any discipline required.

Required Courses
CET 181 Surveying 3
CET 305 Engineering Economics 3
CET 385 Highway Design & Construction 4
CIS 115 Introduction to Programming 3
CIS 171 Database Level I 3
CIS 410 Decision Support Systems 3
DRFT 156 Introduction to CAD 3
DRFT 244 Topographic Mapping & GIS Applications 3
IET 100 Intro to Industrial & Engineering Technology 3
MATH 140 Probability & Statistics 4

Total minimum credits required for certificate 31

SUGGESTED PLAN OF STUDY

Bachelor of Science Degree Industrial Technology (non-teaching)

Freshman year	**F**	**S**
CIS 110	3	
DRFT 131	4	
ENGL 111	3	
IT 110	3	
IT 120	3	
CET 209		3
DRFT 156		3
EET 110		3
MATH 110		4
OR		
MATH 112		3
METL 155		3
TECH 100		2
Total	**16**	**17-18**
Sophomore year		
CET 173	3	
IT 210	3	
METL 140	3	
SPCH 141	3	
Minor	3	
AUTO 128		4
CET 213		3
ENGL 112		3
IT 130		3
Minor		3
Total	**15**	**16**
Junior year		
CIS 360	3	
EET 305	3	
Dist Req-Area C	3	
Minor	3	
Tech course (UD)	3	
Dist Req-Area A/B		6
Dist Req-Area A/B (UD)		3
EET 450		3
Minor		3
Total	**15**	**18**
Senior year		
BUS 300	3	
MFGT 427	3	
Elective (300-400)	3	
Dist Req-Area A/B (UD)	3	
Minor (UD)	3	
Minor (UD)		8
Minor		3
Total	**15**	**11**

SUGGESTED PLAN OF STUDY

Associate of Applied Science Degree
Major in Railroad Maintenance & Operations

Freshman year	**F**	**S**
BIOL 110	3	
CIS 110	3	
MATH 112	3	
RRT 102	3	
Group Selectives	5-6	
BUS 100		3
ENGL 111		3
RRT 101		3
Group Selectives		3-6
Total	**17-18**	**12-15**

Sophomore year		
ENGL 112	3	
PHYS 114	4	
RRT 201	3	
Dist Req Area B	3	
Group Selectives	5-6	
CHEM 111		3
HPE 234		2
RRT 202		3
SPCH 141		3
Group Selectives		3-6
Total	**16-19**	**14-18**

Associate of Applied Science Degree Major in Railroad Maintenance & Operations

Credits

General Education Core Requirements..... 12-13
Some of these courses may be specified by your major, please consult with your academic advisor for more details.

Distribution Requirements 6
Some of these requirements will be filled by required courses in your major. Please consult your academic advisor for more details.

Required Courses
BIOL 110 Introduction to Environmental Health.....3
BUS 100 Introduction to Business 3
CHEM 111 General Chemistry 3
ENGL 112 Written Communication II 3
HPE 234 First Aid & CPR.....2
MATH 112 College Algebra 3
PHYS 114 Foundations of Physical Science 4
RRT 101 History of Railroading 3
RRT 102 Railroad Technical Crafts 3
RRT 201 Railroad Operations 3
RRT 202 Railroad Safety, Environment & Quality.....3

Choose one of the following groups of selectives.

Diesel Machinist
DIES 104 Introduction to Diesel Engines.....3
DIES 114 Introduction to Diesel Engines Lab 3
METL 140 Introduction to Welding & Cutting.....3
METL 155 Machining Processes.....3
METL 270 Product Development 3
METL 265 Intro to CNC/CAM 3

Electronics
EET 101 Introduction to Electricity/Electronics.....5
EET 103 Electronics Fundamental I.....5
EET 204 Electronics Fundamental II 4
EET 207 Digital Fundamentals 5

General Maintenance
BODY 143 Refinishing 3
DIES 104 Introduction to Diesel Engines.....3
DIES 114 Introduction to Diesel Engines Lab 3
DIES 204 Introduction to Hydraulics/Pneumatics.....2
DIES 214 Introduction to Hydraulics/Pneumatics Lab 2
EET 110 Electronics Survey I 3
METL 140 Introduction to Welding & Cutting.....3

Diesel Power
DIES 104 Introduction to Diesel Engines 3
DIES 114 Introduction to Diesel Engines Lab 3
DIES 116 Diesel Fuel Systems 3
DIES 204 Introduction to Hydraulics/Pneumatics 2
DIES 214 Introduction to Hydraulics/Pneumatics Lab 2
DIES 262 Diesel Diagnosis & Repair 2
DIES 272 Diesel Diagnosis & Repair Lab 4

Welding
METL 140 Introduction to Welding and Cutting 3
METL 150 Shielded Metal Arc Welding 3
METL 154 Gas Arc Welding 3
METL 185 Metal Fabrication 3
METL 260 Repair & Maintenance Welding 3
METL 285 Welding Certification Procedures I 3

Computer Programming
CIS 115 Introduction to Programming 3
CIS 155 Programming Level I 3
CIS 171 Database Level I 3
CIS 255 Programming Level II 3
CIS 270 Systems Analysis & Design 4
CIS 285 Spreadsheet 3

Management
ACCT 261 Principles of Accounting I 3
BUS 110 Creative Problem Solving 3
BUS 120 Leadership & Quality Management 3
BUS 271 Legal Environment of Business 3
CIS 111 Integrated Business Applications 3
CIS 285 Spreadsheet 3

Office
ACCT 261 Principles of Accounting I 3
BUED 100 Keyboarding 2
BUED 142 Introduction to Wordprocessing 2
OR
CIS 285 Spreadsheet 3
BUED 230 Office Skills 2
BUED 238 Automated Office 3
CIS 111 Integrated Business Applications 3

Total minimum credits required for degree 64-65

SUGGESTED PLAN OF STUDY

Associate of Applied Science Degree
Major in School Business Administration

Freshman year	**F**	**S**	**Su**
BUS 100	3		
CIS 111	3		
ENGL 111	3		
SPCH 141	3		
OR			
SPCH 142	3		
ENGL 112		3	
MAS 232		3	
MATH 112		3	
Selective		3	
BUS 130			3
MAS 268			3
Selective			3
Total	**12**	**12**	**9**

Sophomore year			
ACCT 261	3		
BM 225	3		
BUS 250	3		
Dist Req Area A	3		
OR			
BM 128			
ACCT 262		3	
Dist Req Area B		3	
Selectives		6	
ACCT 270			3
MAS 269			3
Selective			3
Total	**12**	**12**	**9**

Associate of Applied Science Degree Major in School Business Administration

Credits

General Education Core Requirements..... 12-13
Some of these courses may be specified by your major, please consult with your academic advisor for more details.

Distribution Requirements 6
Some of these requirements will be filled by required courses in your major. Please consult your academic advisor for more details.

Required Courses
ACCT 261 Principles of Accounting I 3
ACCT 262 Principles of Accounting II 3
ACCT 270 Accounting for Non-Profit Organizations.....3
BUS 100 Introduction to Business 3
BUS 110 Creative Problem Solving.....3
BUS 130 Public Sector Ethics 3
BUS 250 Business Statistics.....3
ENGL 112 Written Communication II 3
MAS 232 Human Resource Management 3
MAS 268 School Law I.....3
MAS 269 School Law II (Finance) 3

Select 15 credits from the following:
BM 225 Risk Management (MSU-COT Great Falls Course).....3
MAS 104 Student Activity Programs 1
MAS 105 Pupil Transportation.....1
MAS 106 Food Services.....1
MAS 107 School Safety 1
MAS 108 Retirement System 1
Advisor Approved Selectives 7
Total minimum credits required for degree.....63

Minor in Small Business Management

Required Courses
ACCT 261 Principles of Accounting I 3
BUS 271 Legal Environment of Business 3
BUS 300 Management in Organizations 3
BUS 332 Human Resource Management 3
BUS 335 Principles of Marketing.....3
BUS 350 Financial Management.....3
SBM 338 Promotion.....3
SBM 402 Small Business Management 3
SBM 416 New Venture Development.....3
TSS 248 Retail/Distributorship.....3

Total minimum credits required for minor.....30

Departmental Certificate in Welding Technology

Required Courses

DRFT 131 Technical Graphics I 4
METL 140 Introduction to Welding & Cutting 3
METL 150 Shielded Metal Arc Welding 3
METL 154 Gas Arc Welding Processing 3
METL 155 Machining Processes 3
METL 185 Metal Fabrication I 3
METL 260 Repair & Maintenance Welding 3
METL 285 Welding Certification Procedures I 3
General Education (Area B) 3
ENGL 111 Written Communication I 3
OR
SPCH 141 Fundamentals of Speech 3
OR
SPCH 142 Interpersonal Communication 3

Total minimum credits required for certificate 31