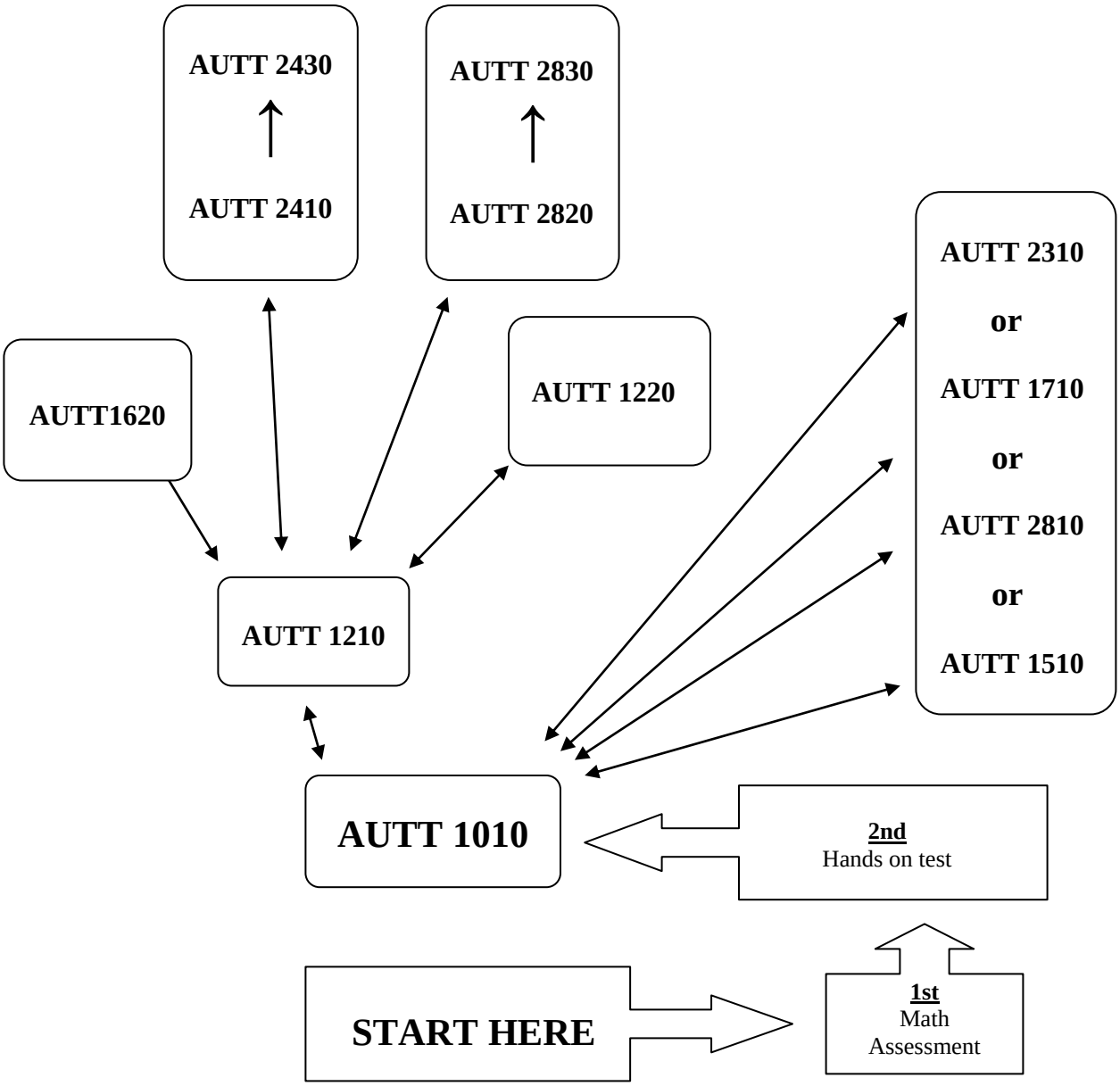
FLOW CHART FOR THE AUTOMOTIVE PROGRAM



Prerequisites:

1st: assess into college level math
* student that do not met math requirement must take and pass developmental classes.

2rd: complete the hands on test
* Student must complete the test in 10 minutes or less.
* Students that do not pass the hands on test must take AUTT 0900 in the summer.

Call Darrell Bush to make arrangements for the hands on test. 738-4692

A new enrollment procedures has been implemented for calendar year 2010-2011. Students will be required to submit an application to be considered for enrollment into the automotive program. Contact one of the automotive faculty or a Student Advisor for an application packet. For school year 2011-2012, students will be notified on or after August 1st if they were accepted into the program.

Automotive Technology (AUAAS)

ASSOCIATE IN APPLIED SCIENCE DEGREE

South Omaha Campus

The Automotive Technology program includes an associate degree program and Occupational Specialist modules designed to meet the technical needs of an industry which has been revolutionized by electronics and computerization. The associate degree program will provide a sound background in the major automotive repair areas. The Occupational Specialist modules offer concentrated training in auto electronics, engine repair and transmission systems.

Program Requirements

			Quarter Hours	
General Education Requirements				**27**
		English-Level I	4.5	
		English-Level II	4.5	
		Social Sciences	4.5	
HMRL	1010	Human Relations Skills	4.5	
MATH	1240	Applied Mathematics	4.5	
INFO	1001	Microcomputer Fundamentals	4.5	
Required Courses in Automotive Technology				**83**
		First year classes		
AUTT	1010	Introduction to Auto Service and Minor Repair	6	
AUTT	1210	Automotive Electricity and Electronics I	6	
AUTT	1220	Automotive Electricity and Electronics II	6	
AUTT	1510	Brake Systems	6	
AUTT	1620	Climate Control/Heating and Air Conditioning	6	
AUTT	1710	Engine Mechanical Service	6	
AUTT	2988	OJT/Work Experience (Summer quarter)	8	
		Second year classes		
AUTT	2310	Suspension Systems	6	
AUTT	2410	Basic Driveability	6	
AUTT	2430	Advanced Driveability	6	
AUTT	2810	Manual Transmissions and Drive Trains	6	
AUTT	2820	Automatic Transmissions	6	
AUTT	2830	Automatic Transaxles	6	
WELD	1261	Combination Welding	**3**	
Total Required Hours				**110**

Webpage : http://www.mccneb.edu/autt/

Automotive Technology

AUTOMOTIVE FUNDAMENTALS

(FIRST YEAR CLASSES)

Certificate of Achievement

South Omaha Campus

The Automotive Fundamentals certificate program is designed to provide students with the skills and knowledge necessary for entry-level positions in the automotive field as beginning technicians. This program helps students develop skills in diagnosing and repairing basic repairs common to most shops and dealerships.

PROGRAM REQUIREMENTS

			Quarter Hours	
General Education Requirements				**13.5**
		English-Level I	4.5	
		Social Sciences	4.5	
MATH	1240	Applied Mathematics	4.5	
Required Courses in Automotive Technology				**36**
AUTT	1010	Introduction to Auto Service and Minor Repair	6	
AUTT	1210	Automotive Electricity and Electronics I	6	
AUTT	1220	Automotive Electricity and Electronics II	6	
AUTT	1510	Brake Systems	6	
AUTT	1620	Climate Control/Heating and Air Conditioning	6	
AUTT	1710	Engine Mechanical Service	6	
Total Required Hours				**49**

Webpage : http://www.mccneb.edu/autt/

PLANNING GUIDE

Below is the schedule for the student working toward the two-year AAS degree in Automotive Technology. Information on Occupational Specialist modules is also available in the Counseling/Advising Centers.

		Morning session	Afternoon session
Day program	Monday thru Thursday	(8:30 to 11	and 12:30 to 3)
	Students attend both sessions	1.5 hour break	

FIRST YEAR

FALL QUARTER-	WINTER QUARTER	SPRING QUARTER	SUMMER QUARTER
AUTT 1010-7A **Intro** First half of the quarter **AUTT 1210-7B** **Elect I** Second half of the quarter	**AUTT 1220-7A** **Elect II** First half of the quarter **AUTT 1510-7B** **Brakes** Second half of the quarter	**AUTT 1710-7A** **Engines** First half of the quarter **AUTT1620-7B** **A/C** Second half of the quarter	**AUTT 2981** Internship **NOTE**: Instructor approval required for Internship. Some students may not be ready after one year of study.

SECOND YEAR

FALL QUARTER	WINTER QUARTER	SPRING QUARTER	SUMMER QUARTER
AUTT 2820-7A **Autotrans RWD** First half of the quarter **AUTT 2830-7B** **Transaxles FWD** Second half of the quarter	**AUTT 2410-7A** **Eng Perf I** First half of the quarter **AUTT 2430-7B** **Eng Perf II** Second half of the quarter	**AUTT 2810-7A** **Manuals/Clutches** First half of the quarter **AUTT 2310-7B** **Suspension** Second half of the quarter	

The evening program delivery method uses the **hybrid format**. This format requires students to access the Internet by which **¼ of the class is on-line**. The time spent at school allows the student to complete lab projects and to discuss points of interest related to theory.

EVENING PROGRAM (6PM to 10PM) 4 hours
(2 hours spent on-line weekly)

FIRST YEAR

FALL QUARTER	WINTER QUARTER	SPRING QUARTER	SUMMER QUARTER
AUTT 1010-8A Intro M/W **AUTT 1510-8B** Brakes T/TH	**AUTT 1210-8A** Elect I M/W **AUTT 1710-8B** Engine Repair T/TH	**AUTT 1220-8A** Elect II M/W **AUTT 1620-8B** A/C T/TH	**AUTT 2981** Internship **NOTE**: Instructor approval required for Internship. Some students may not be ready after one year of study.

SECOND YEAR

FALL QUARTER	WINTER QUARTER	SPRING QUARTER	SUMMER QUARTER
AUTT 2810-8A Manuals M/W **AUTT 2410-8B** Eng Perf I T/TH	**AUTT 2820-8A** AutoTrans RWD M/W **AUTT 2310-8B** Suspension T/TH	**AUTT 2830-8A** Transaxles FWD M/W **AUTT 2430-8B** Eng Perf II T/TH	

Please note:

1. Student should expect to spend a minimum of one to two hours per week online per class in order to keep up with their studies.
2. Students are required to maintain a minimum level of performance with getting online and completing the required amount of work. In the event that student has not met the minimum level of performance the student will be dropped from the class.
3. Quizzes and tests have deadlines. Not completing the required work on or before the deadline the student will have earned no points for that assignment.
4. Students are required to read and sign, "I AGREE" contract before they are allowed to continue in the class.

Student Logon/Password

The following website allows students to manage their logon and password without having to contact the helpdesk.

https://www.mccneb.edu/password

PROGRAM ESTIMATED STUDENT COSTS

ASSOCIATE DEGREE PROGRAM

ITEM	COST
1. Hand Tools (initial cost)	**$ 3,000.00 to 4,000.00 for an initial investment to begin the program** (varies by manufacturer) If a student would purchase all of the tools according to a specific vendor, required as well as the recommended tools, the cost would range from $ 3,100.00 to over $ 8,000.00.
2. Textbook	$ 90.00 to $115.00 Per Quarter
3. Tuition	Students will be registered for classes in different total credit hour blocks. These fees are assessed as follows:
4. Technology Service Fee	$5.00 per credit hour

Summary of costs:

Tuition (resident) $ 5830.00
Tools (bare minimum) $ 4000.00 (+)
Textbooks $ 700.00
total $ 10,000.00 to $11.000 +

Cost per credit for resident students……..……..$48.00 plus $5.00 technology fee = $53.00
Cost per credit for non-resident and for International students……..$71.50 plus $5.00 technology fee = $76.50

Resident Student	Total Tuition Costs
Quarter 1	$ 636.00 for 12 credits
Quarter 2	$ 636.00 for 12 credits
Quarter 3	$ 636.00 for 12 credits
Quarter 4	$ 636.00 for 12 credits
Quarter 5	$ 636.00 for 12 credits
Quarter 6	$ 636.00 for 12 credits
Co-op	$ 424.00 for 8 credits
Welding	$ 159.00 for 3 credits
General educations classes	$ 1431.00 for 27 credits
TOTAL	$ 5830.00 for 110 credits
Non Resident and International Student	**Total Tuition Costs**
Quarter 1	$ 918.00 for 12 credits
Quarter 2	$ 918.00 for 12 credits
Quarter 3	$ 918.00 for 12 credits
Quarter 4	$ 918.00 for 12 credits
Quarter 5	$ 918.00 for 12 credits
Quarter 6	$ 918.00 for 12 credits
Co-op	$ 612.00 for 8 credits
Welding	$ 229.50 for 3 credits
General Education classes	$ 2065.50 for 27 credits
TOTAL	$ 8415.00 for 110 credits

AUTOMOTIVE TECHNOLOGY PROGRAM FACULTY

Full Time Faculty

Joe Jerdon (AUTT instructor, first year classes)
jjerdon@mccneb.edu office: 738-4693

Automotive Technology, A.A.S., Metropolitan Comm. College; A.A.S., Electronics Technology, Metropolitan Community College; Certification; General Motors Training Center; ASE Certified in 8 areas (Master Tech); USAF Electronics School; 25 years of trade experience; 4 years of education beyond high school; 10 years part-time, 21 years full-time teaching experience.

Lenny Stinton (AUTT instructor, second year classes)
lstinton@mccneb.edu office: 738-4691

Automotive Technology, A.A.S., Metropolitan Comm. College; Iowa State University, Certification General Motors and Ford Motor Company Training Centers; ASE certified in 12 areas (Master Tech); 27 years of trade experience; 23 years teaching experience.

Darrell Bush (AYES/Career Academy instructor)
dbush@mccneb.edu office: 738-4692

A.A.S. Southern State College, Springfield, S.D. Automotive Technology; B.S. degree University of South Dakota; ASE Certified in 8 areas (Master Tech); 7 years of trade experience; 30 years teaching experience; Factory training classes from GM, Chrysler; Ford and Toyota. Additional training from CTI and ATG

Adjunct Faculty

Leave message with Darrell Bush at 738-4692 and he will contact the part time instructor.

Al Cox: Administrator/designer for the hybrid classes, ASE certified 8 areas plus L1 (Master Tech); Mitsubishi Master; Nissan Master; A.A. Metro. Comm with a minor in computer programming; Grad. Greer Technical Inst. Chicago, Ill.; Nissan service competition (NISTEC) 2nd place World finals (Japan) 1997, NISTEC N. Amer. Champ. 1996, NISTEC Regional Champ 4 times; 25 yrs teaching; 37 years trade experience.

Dave Donham: ASE certified in 8 categories (Master Tech), 22 years GM experience, GMC Service Guild Master Technician, Pontiac Service Guild Master Technician, SCC Milford graduate.

Troy Matthews: ASE certified 8 areas (Master Tech), 23 years of experience on Chrysler, Jaguar/Land Rover.

Ben Carlson: ASE certified 8 areas plus L1 (Master Tech); 2 years Pontiac, GMC, Saab, Subaru Experience, 10 years trade experience, A.A.S. SCC Milford, GM A.S.E.P. Graduate

Josh Keck:

ADMISSION AND PROGRAM REQUIREMENTS

Automotive program requirements:

Students must:

1. Possess a **valid driver's license**. (students will be driving customers cars for road testing purposes)
2. Operate a **manual transmission and clutch** before enrolling in the summer Internship.
3. Assess into **college level math**
4. Passing the **hands-on** test.

How the program prerequisites are used for screening:

Math:

1. Students that test into college level math have met the math prerequisite.
2. Student that do not test into college level math must take development classes. When students have successfully completed their developmental classes, they must retake the math assessment tests and their results must indicate that they have assessed into college level math.

Hands on test:

1. Students that complete the test in 10 minutes or less have met this prerequisite.
2. Student that do not complete this test in 10 minutes must take AUTT 0900 in the summer.
3. Student that do not successfully pass AUTT 0900 must take INCT 1400 in the fall quarter. Student that successfully passing INCT 1400 are allowed to enroll into the automotive program the following year.

Professionalism:

Students are entering a profession that requires a level of thinking and behavior on the part of the technician to be very high. The cost of buying and maintaining a vehicle has reached a point that customers can't afford to take their car to a repair shop that does shoddy work and they expect the company and their employees to look and behave as a professional. Students will be expected to conduct themselves accordingly.

Phone numbers for Testing Centers:

Elkhorn Valley Campus	289-1278
Fort Omaha Campus	457-2204
South Omaha Campus	738-4612
Sarpy Campus	537-3800

STUDENT INFORMATION

Safety and dress code

Safety items that are related to lab:

1. **Safety glasses** must be worn at all times while in lab
   Side shields required, must meet OHSA Z87 requirements and be worn over the eyes.
2. No **baggy pants** or **baggy shirts** and **no shorts**
3. **Leather work shoes** (steel toe recommended but not required) (sportswear not acceptable)
4. Shirts tucked in and pants worn on the hips using a belt
5. Pant leg not dragging on the floor.
6. Blue T-shirt with MCC logo required **(approximately $25 for 5 T-shirts)**

Any student that does not wear safety glasses in a lab setting and adhere to these safety rules after two warnings will be instructed to talk to Bill Owen, Dean of Industrial Technology.

Tools

***** During the fall quarter all new students are required to have the basic tool set for two classes for the beginning quarter as soon as possible. However, students must have their tools by the end of the fall quarter.

***** Student have the option to sign out a loaner tool set while waiting for their tools to arrive. A total of 10 boxes are available. At the end of the fall quarter loaner tool boxes are no longer an option.

***** Students who do not have their tools by the end of the fall quarter will not be allowed to continue.

* Students are required to show proof that they have indeed ordered their tools by the 5th week of the quarter for the AUTT 1010 classes.

* For those students that are going to enroll for the next quarter, must have their tools ordered by the 6th week of the quarter they are currently in. (for example: students enrolled in AUTT 1010 and they are planning on taking classes in the winter quarter, they must have their tools ordered for those winter classes during the 6th week of the fall quarter. Not having the required tools, the student will not be allowed to continue.

* Student tools that are purchased by a training program must keep your instructor informed as the rules that are followed concerning who actually owns the tools. When plans are being made for the summer internship, the student may not be allowed to take his/her tool with them if the students does not qualify for the internship.

Attendance Policy

Your ability to develop your mechanical skills requires that you attend all of your classes. For the automotive program, attendance is required for all classes. If, however, you must miss a class, a total of **3 days** is the maximum number of days that can be missed, per class or section. Some of the instructors for the day program may use ½ day absent which would be 6 half days. Students will earn a failing grade if they miss more than three days of class. Being tardy means arriving for class 15 minutes late. Students will be marked absent after the 15 minute limit.

Driving/Police Record

As part of the hiring process employers regularly test for substance abuse. Employees failing a drug test are unemployable because they are uninsurable. If you have one or more DUI convictions, as well as other convictions, you are going to find it VERY difficult to secure employment within the automotive trade. Insurance companies that insure automotive businesses have the last word when it comes to hiring a new employee.

Drug testing

It is a trade practice for employers to test for controlled substances as well as for alcohol. They will test current employees on a random basis and as often as they deem necessary. If your service manager notices that your performance/behavior has changed he/she WILL have you tested unannounced.

Course Proficiency

Course proficiency is one option for students to obtain college credit without having to attend classes. The requirements for taking this test are: student must have documentation of actual hands on work experience in area being tested, pass the written test with a grade of 70% or better, and complete any hands on testing. A fee of $40 is paid before the test is given.

Cell phones

While in class students must turn off cell phones and pagers. If your occupation requires you to be "on-call" please inform your instructor.

Internship*

The automotive program requires that each student complete an **8 credit Internship**. The Internship is usually completed during the summer quarter, but can be completed during other quarters under special circumstances. For a student to qualify for an Internship, the following requirements must be met:

STUDENTS ARE RESPONSIBLE FOR CONTACTING, INTERVIEWING AND SECURING THEIR OWN JOBS.

1. Have successfully completed a minimum of 24 credit hours of automotive classes
2. Work with an instructor to find an acceptable work site
3. Be a full time employee during the Internship
4. Student must have a valid drivers license
5. Have a GPA of 2.0 or better
6. Have an Internship job site before the beginning of the summer quarter
7. Have good attendance in the program
8. Have all of the required tools and tool boxes
9. Be able to operate a vehicle with a clutch prior to the summer internship

***** If you have two years or more of work experience as an automotive technician, you can chose to take advantage of "receiving college credit for work experience".

*** Note: it is important for the student to ask the employer if they are given any benefits. Specifically, health, unemployment, paid holidays, and sick leave…etc. Do not assume that you have benefits. You are an intern and you may not be considered a full time employee.**

Customer cars and live work

It is a requirement that **ALL** cars that are brought in the lab for work must have a valid registration, license plate, and current insurance card. Paper plates on the windshield are not acceptable. **ALL** cars MUST have a repair order filled out and MUST have the instructors signature/approval before anything is done on the car.

Student projects

Students have the option to use their own cars for lab projects. However, students do not have the option to make it the only project that is worked on during the quarter. In an effort to produce actual working conditions, student must work on a variety of makes and models.

Hobby shop

The phrase, "hobby shop" is generally used when a repair shop is being used for personal use. In a school setting, this practice is not allowed. Once the lab or class period is over, students must leave the area so the lab and classroom can be prepared for the next class.

Parking Permits

For every vehicle that you will be driving to school must have a parking permit. If you have several vehicles that you use for transportation, each vehicle must have a separate permit. Student Services has the forms. You will need the license plate number of the vehicle and your drivers license number.

Employability and Sustainability

The automotive trade is a very demanding place to work. Shop owners and service managers expect their employees to be self starters with a reasonable amount of aggressive and confidence toward their work. Also, shop owners and managers have little desire or time to spend with new employees that may need any kind of mentoring. With the large amount over-head costs associated with any business, they can't afford to hire anyone that doesn't generate a profit as soon as possible. Hiring anyone that has a limited amount of experience the cost associated with fixing their mistakes is far too high. On today's cars, the smallest mistake can be very costly.

Ear buds/Head phones

Due to safety concerns, MP3 and other listening devices are not allowed to be used in the lab and classroom. Students must be aware of their surroundings.

Lab Area Policies

The Automotive Technology lab area is an extension of the classroom and should be treated as such. In order to provide for a safe, clean environment conducive to learning, the following rules of conduct are expected in the lab area:

1 Safe work practices as defined by the instructor must be followed at all times.
2 All vehicles entering the lab area **must have** instructor approval. This applies to your personal car also. Do not assume that you can bring in your own car whenever you want to.
3 All work must be related to automotive technology repairs and the curriculum of the program.
4 Visitors that enter the lab must go to the Parts room and ask for assistance. The person at the parts room window will assist the visitor in contacting the instructor.
5 Smoking and smokeless tobacco are prohibited in the lab and classrooms. There are designated smoking areas around the college.
6 If you have an air impact in your tool box, you are **required** to have impact sockets before you are allowed to use your impact wrench.
7 All dust, dirt and other debris in the student's work area is the responsibility of the student. This must be cleaned up before she/he leaves the work area for the day.
8 All broken or defective equipment must be reported to the lab technician or the instructor immediately.
9 Co-workers must be treated with respect. Any verbal or physical abuse among students or staff will not be tolerated.
10 Safety must be maintained at all times. Safety glasses with side shields **must be** worn at all times. Students failing to work safely will be withdrawn from the lab.
11 Students are responsible for cleaning up their area after each project and before they leave for the day. If necessary, students will be assigned tasks to aid in clean up.
12 Floor mats, seat covers and fender covers must be used on all customer vehicles.
13 You are allowed to bring in your personal car for a lab project only once and the repairs must be related to the subject being studied.
14 Horseplay is not allowed. No warning will be given.
15 All repairs must be paid for before the car can be released to the customer. Credit cannot be given to anyone.
16 All parts must be ordered from the parts room for all projects competed on the job.
17 PROPER ATTIRE IS MANDATORY WHEN IN LAB. **NO** baggy pants or shirts, no pants that are dragging on the floor, no shorts, no tank tops, and an approved leather work shoes are required Students must wear their blue t-shirt while in class and in lab.
18 A shop fee will be imposed on all work that requires service and/or diagnosing. Contact the parts room manager for details.
19 Lab computers are for school use only. Students must refrain using these computers for personal use as well as for entertainment.
20 Students are not allowed to use the lab outside of normal class times. When the lab or class period is over, students must leave the area so the lab and classroom can be secured.
21 Students that are destructive and damage school and/or customer cars because of their lack of ability to do quality work, such as: cutting wires, butchering parts, using excessive force, and the inability to use proper repair procedures maybe dropped from the program.
22 Students are required to bring in work that is related to the subject being taught. Also, they cannot deviate from their given task. Such as removing a strut when the assignment was to fix the brakes.

Failure to comply with any of the above may lead to a temporary suspension, a failing grade, or dropped from the class.

(SOFT SKILLS---skills needed to keep your job)

INSTRUMENT USED TO ASSESS YOUR STATUS WITHIN THE PROGRAM

Required skills to remain in the program

Get to class/work on time Arrives on time and is conscientious about being punctual
Works safely Cleans up spills, wears safety glasses, wear proper attire, is safety conscious,
Able to show mechanical aptitude Can see how things work, can see how things are constructed
Honest and trustworthy Doesn't hide mistakes, returns tools, doesn't try to cheat people
Able to do repairs at entry level Can perform and complete all aspects of job and projects assigned
Has a desire to work, is eager to work, shows hustle Not lazy, avoids standing around, focuses on task at hand
Does quality work Shows a sense of respect for the customer's property. All parts and fasteners are put back and properly secured. Repeat problems will result in being dropped from the program.
Time Management Uses time effectively, doesn't stand around, knows what to do next, has a sense of urgency to get the job done in a reasonable amount of time.
Physically able to meet the demands of making repairs Able to lift 50 pounds, swing a hammer with force, apply 250 FT/LBS of torque
Conduct themselves in a professional manner at all times Is not rude, does not yell or use profanity and behaves professionally

TEXTBOOK LIST

You can check on prices at the following website **http://www.efollett.com/**

Near the upper middle of the webpage look for “find your bookstore”. From there you can find the Metro College link.

AUTT 1010 **AUTT 1710**	**Automotive Engines** Delmar, 6th edition 2010 Tim Gilles
AUTT 1210 **AUTT 1220**	**Automotive Electricity and Electronics** Pearson, 3rd edition 2011 James Halderman
AUTT 1510 **AUTT 2310**	**Automotive Chassis** Brakes, Steering & Suspension Delmar, 1st Edition 2005 Tim Gilles
AUTT 1620	**Automotive Air Conditioning** Delmar, 8th edition 2002 Boyce H. Dwiggens
AUTT 2410 **AUTT 2430**	**Advanced Engine Performance Diagnosis** 2009 Prentice Hall, 4th edition James Halderman
AUTT 2810	**Manual Drivetrains and Axles 2nd Edition** 2010 Johanson/ Duffy Goodheart-Willcox Comp,Inc
AUTT 2820 **AUTT 2830**	**Automatic Transmissions and Transaxles** 2010 Johanson/Duffy 3rd edition Goodheart-Willcox Comp,Inc
AUTT 1010 **AUTT 1710**	**Automotive Engines** Delmar, 6th edition 2010 Tim Gilles

TOOL LIST

New students are required to purchase all of the first year tools by the end of the fall quarter .

First year tools

REQUIRED TOOLS	RECOMMENEDED TOOLS
AUTT 1010 (required)	**AUTT 1010** (recomm)
(1) 1……..26" Roll cabinet with locking drawers	(106) 1 ……...top storage 26" tool chest
1/4 Drive set to include :	(107) 1 set…..1/4" Dr Deepwell sockets (3/16" - 9/16")
(2) 1 set……Standard sockets (4mm - 14mm)	(108) 1 set…..1/4" Dr Deepwell sockets (4mm - 14mm)
(3) 1 …….Extension (3")	(109) 1 set of 4…3/8 Dr Torx bits
(4) 1 …….Extension (6")	(110) 1 …….Sledge hammer
(5) 1 …….5" ratchet	(111) 1 …….”O” ring pick set
(6) 1 …….Nut driver handle	(112) 1 …….Radiator hose pinch off pliers
(7) 1 …….Universal joint (single pivot/ball & socket)	(113) 1 …….C clamp vise grip pliers
3/8 drive socket set to include :	(114) 1 ……..Window scraper
(8) 1 set……Metric standard socket set (9 mm – 19 mm)	
(9) 1 set……Metric deepwell sockets (9 mm – 19 mm)	**1/4 " drive**
(10) 1 …….Extensions (3")	(115) 1 set……Standard sockets (3/16" through 9/16")
(11) 1 …….Extensions (6")	(116) 1 set……Standard sockets (5/16" - 7/8")
(12) 1 …….Extensions (12")	**3/8" drive**
(13) 1 …….ratchet (8")	(117) 1 set……Deepwell sockets (5/16" - 7/8")
(14) 1 …….Universal joint (single pivot/ball & socket)	**1/2 " drive**
(15) 1 …….Socket adapters (3/8"-1/2")	(118) 1 set……Standard sockets (3/8" - 1-1/4")
(16) 1 …….Socket adapters (1/2"-3/8")	**Wrench set**
(17) 1 …….Socket adapters (3/8"-1/4")	(119) 1 set……Combination wrench set (1/4" - 1")
1/2" drive set to include :	
(18) 1 set……Metric standard sockets (12mm - 24mm)	
(19) 1 ……..Extension (3")	
(20) 1 ……..Extension (6")	
(21) 1 ……..Extension (10" or 12")	
(22) 1 ……..10" ratchet	
(23) 1 ……..Flex handle breaker bar	
(24) 1 ……..Universal joint (single pivot/ball & socket)	
Wrench sets :	
(25) 1 set……Combination metric wrench set (6mm - 24mm)	
(26) 1 …….Adjustable jaw wrench	
Allen wrench sets :	
(27) 1 set……Metric hex wrench set	
(28) 1 set……US standard hex wrench set	
Screw driver set :	
(29) 1 set ……Standard flat tip screwdrivers (5 piece set)	
(30) 1 set…….Phillips tip screwdrivers (4 piece set)	
(31) 1 set ……Torx tip screwdrivers (T10 – T30)	
Chisel and punch sets :	
(32) 1 set…….Assortment of chisels and punches	
Hammers :	
(33) 1 ……Standard ball peen hammer	

Pliers :

(34) 1 ……Channel lock style pliers
(35) 1 ……Diagonal cutters (wire cutters)
(36) 1 ……Needle nose pliers
(37) 1 ……Slip joint pliers
(38) 1 ……Vise grip pliers (locking)
(39) 1 ……Needle nose vise grip pliers (locking)
(40) 1 ……Radiator spring hose clamp pliers

Misc :

(41) 1 ……Gasket scraper
(42) 1 ……Inspection mirror round (telescoping)
(43) 1 ……Oil filter wrench, universal
(44) 1 ……Hacksaw 12”
(45) 1 ……10” mill file with handle
(46) 1 ……Tire valve core remover tool
(47) 1 ……Magnetic pick-up tool
(48) 1 ……Blow gun
(49) 1 ……18” pry bar
(50) 1 ……Tire air chuck
(51) 1 ……Tire pressure gauge
(52) 1 ……Standard wire brush
(53) 1 ……Antifreeze hydrometer
(54) 1 ……Funnel
(55) 1 ……Valve stem core inserter tool
(56) 1……Rubber mallet
(57) 1……12 foot tape measure (US / Metric)

AUTT 1210 (required)

Electrical service tools :

(58) 1 …… 12 volt test light (computer safe)
(59) 1 …… Wire stripping pliers
(60) 1 ……Digital multimeter
(volts, amps, ohms, tach, beeper, diode, Hz, duty cycle, temp)

AUTT 1210 (recomm)

(120) 1 ……Door handle removal tool
(121) 1 ……Door pad clip removal tool
(122) 1 ……Ford radio removal tool
(123) 1 ……Soldering iron
(124) 1 set.…Nut driver (1/8” to ½”)
(125) 1 set.…Nut driver (6mm - 12mm)

AUTT 1220 (required)

Battery tools:

(61) 1 ……Battery post cleaner (top post type)
(62) 1 ……Battery post cleaner (side post type)
(63) 1 ……Wire brush
(64) 1 ……Battery clamp puller (top post type)
(65) 1 ……Battery pliers

AUTT 1220 (none recommended)

AUTT 1510 (required)

Brakes:

(66) 1 ……Brake hold down spring tool
(67) 1 ……Brake return spring tool
(68) 1 ……Brake spoon (star wheel adjuster)
(69) 1 set…..Tubing wrenches flare nut (1/4.- 13/16)
(70) 1 set…..Tubing wrenches metric (10mm - 21mm)
(71) 1 set…..Bleeder wrenches
(72) 1 ……Brass drift punch
(73) 1 ……..Torx bit T-40 (caliper service)
(74) 1 ……..Torx bit T-45 (caliper service)
(75) 1 ……..Torx bit T-50 (caliper service)
(76) 1 ……..Torx bit T-60 (caliper service)
(77) 1 ……..Hex driver 1 / 4" (caliper service)
(78) 1 ……..Hex driver 5 / 16" (caliper service)
(79) 1 ……..Hex driver 3 / 8" (caliper service)
(80) 1 ……...Disc brake pad spreader
(81) 1 ……...Rear disc brake caliper piston rotator
(82) 1 set ....Reverse Torx bits (3/8 drive)

AUTT 1510 (none recommended)

AUTT 1710 (required)

Engines:

(83) 1 …….Torque wrench (1/2 Dr 250ft lb)
(84) 1 …….Feeler gauge set (.0015 - .035)
(85) 1 …….Stethoscope
(86) 1 …….Ring compressor
(87) 1 …….Ring expander

AUTT 1710 (recomm)

(126) 1 ……air impact ½" drive
(127) 1 ……1-1/8" impact socket
(128) 1 ……1-1/16" impact socket
(129) 1 ……1-1/4" impact socket
(130) 1 set..… 1/2" impact sockets (1/2" - 1")
(131) 1 set…..air impact sockets (14mm – 22mm)
(132) 1 …….air ratchet 3/8" drive

AUTT 1620 (required)

Air Conditioning Tools:

(88) 1 set……A/C line spring clip release tool
(89) 1 …….Temp gauge (dial)

AUTT 1620 (recomm)

(133) 1 ……A/C manifold gauges for R134a
(134) 1 ……Dual Freon leak detector
(135) 1 ……..1-1/16" combination wrench
(136) 1 ……..1-1/8" combination wrench
(137) 1 ……..1-1/4" combination wrench
(138) 1 ……Infrared thermometer

Second year tools

These tools must be purchased before the fall quarter of your second year.

AUTT 2310 (required)

Steering & Suspension:

(none required)

AUTT 2310 (recomm)

(139) 1 …..Tie rod end adjusting tool (rack/pinion)
(140) 1 …..Tie rod end adjusting tool (sleeve type)
(141) 1 …..Tie rod separator (pickle fork)
(142) 1 ……Ball joint separator (pickle fork)
(143) 1 set of 4…..Carbide cutter

AUTT 2410 (required)

Tune Up/Fuel System Tools:

(90) 1 …….Spark plug feeler gauge .035" - .080"
(91) 1 set ….Fuel line quick disconnects tools
(92) 1 …….Cylinder compression gauge w/adapters
(93) 1 …….Spark plug socket - 5/8"
(94) 1 …….Spark plug socket - 13/16"
(95) 1 …….. Oxygen sensor socket
(96) 1 …….Ford ignition module tool
(97) 1 …….Spark gap tester

AUTT 2410 (recomm)

(144) 1 ……Hand vacuum pump
(145) 1 ……Fuel injector pressure gauge w/adapters
(146) 1 ……Vacuum/fuel pump gauge

AUTT 2810/2820 (required)

Transmissions:

(98) 1 …….Snap ring pliers set (internal/external pin type)
(99) 1 ……..Snap ring pliers set (external flat tip design)
(100) 1…….32 mm impact sockets
(101) 1 …….36 mm impact sockets
(102) 1 set…..Pin punches
(103) 1 ……...CV boot clamp (pinch type)
(104) 1……...CV boot clamp tool (cinch type)
(105) 1 ……...3/8" drive speed handle

AUTT 2810/2820 (recomm)

(147) 1 ……Torque wrench (zero **inch pounds** to 150 **inch pounds**)

Tool Vendors

Snap On

Dan Roth cell 499-0087
Danny.R.Roth@snapon.com

Mac Tools

Mike Dillon cell 730-0207
mikestoolservice@msn.com
Tool orders over $100 the shipping is free.

Fastenal Eric at 346-5597
2910 K street
neom1@stores.fastenal.com

Snap On and Mac Tools give significant discounts to students that are enrolled in the automotive program. Depending on what you order the discounts can range from 50% to 60% off.

Students have several options for their tool purchase.

1. Purchase all of the tools in one package.
2. Purchase first year and second year tools separately
3. Purchase only the required tools.
4. Purchase a packaged tool set from a tool company catalog. Contact one of the automotive instructors to ensure the tool package your wish to purchase will serve your needs.

PLEASE NOTE: The prices provided can change without notice.

Snap On

	List	Student cost	Tax	Total
1st year required (includes a 26" bottom box)	6,638.12	2,733.32	191.38	2,924.70
1st year recommended (includes a 26" top box)	5,699.85	2,392.84	167.50	2,560.34
2nd year required	999.50	413.14	28.92	442.06
2nd year recommended	1,210.65	545.07	38.16	583.23
Tool box options				
KRA2106A (40" bottom box)	1,471.41	794.56	55.62	850.18
KRA2104A (40" top box)	1,130.09	610.25	42.72	652.97
KRA4813D (40" bottom box)	2,127.92	1,149.08	80.44	1,129.52
KRA4144D (40" top box)	1,348.92	728.42	50.99	779.41
Wrench Supplement		167.38	11.72	179.10

MAC

	Retail	50%	60%
Total First Year Required (includes 26" bottom tool box)	6,442.04	3,222.44	2,577.95
Total First Year Recommended (includes 26" top tool chest)	4,845.67	2,398.00	1,918.40
TOTAL	**11,287.71**	**5,620.44**	**4,496.35**
Total Second Year Required	873.85	437.00	349.60
Total Second Year Recommended	1,018.93	510.00	408.00
TOTAL	**1,892.78**	**947.00**	**757.60**
TOTAL FOR FIRST AND SECOND YEAR REQUIRED AND RECOMM	**13,180.49**	**6,567.44**	**5,253.95**
Optional 40" Tool boxes			
Bottom cabinet MB4290B	1,679.00	839.50	671.60
Top tool chest MB4295B	1,179.00	589.50	471.60
Total Optional Tool Boxes	**2,858.00**	**1,429.00**	**1,143.20**

PRICES DONOT INCLUDE TAXES, PRICES GOOD AS OF AUGUST 20, 2010

FASTENAL

1st year required	$1637.55	this kit does not include tool numbers 40, 46, 48, 50, 51, 53, 55, 62, 85, 86, 87, 88
1st year recommended	$1054.55	this kit does not include tool numbers 112, 123, 133, 134
2nd year required	$169.99	this kit does not include tool numbers 91, 92, 95, 96, 97, 103
2nd year recommended	$173.36	this kit does not include tool numbers 143, 144, 145, 146