I. INTRODUCTION

A. A study of the operation, hydraulic principles, and related circuits of modern automatic transmissions and automatic transaxles. Diagnosis, disassembly, and assembly procedures with emphasis on the use of special tools and proper repair techniques.

B. Automotive Automatic Transmissions and Transaxles (AUMT 2425) is a required course for the completion of a two year Associate of Applied Science degree in Automotive Mechanic/Technician or a Level I or Level II Certificate of Completion in the Automotive Technician Program.

C. This course is occupationally related and serves as a preparation for a career in the Automotive Service and Repair field.

D. Prerequisites: This course has a prerequisite of AUMT 2413 or consent of the Department Chair.

E. Alphanumeric coding used throughout this module book denotes integration of SCANS occupational competencies (C1, etc.) and Foundation skills (F1, etc.).

II. LEARNING OUTCOMES

Upon successful completion of this course, Automotive Automatic Transmissions and Transaxles, the student will:

A. Identify major components of a vehicles drive train. (C5, 6)
B. Describe the major differences between a transmission and a transaxle. (C6, 19)
C. Describe the basic operation of a planetary gearset. (C5, 19) (F-10)
D. Describe the measurements normally taken by an automatic transmission technician. (F4, 6, and 10)
E. Using math and measuring instruments, determine the corrective action to take when end clearances are not within specifications. (F1, 3, 4, 9, 11, and F2)
F. Utilizing the appropriate safety procedures, diagnose electronic, mechanical, and vacuum control systems. (C5 thru 7) (F6, 9)
G. Perform automatic transmission and transaxle diagnosis by performing oil pressure tests. Determine needed repairs, perform maintenance and make adjustments. (C15, 16) (F8)
H. Utilizing appropriate electronic testing devices, inspect, test, adjust, and/or replace transmission related electrical/electronic components. (C5 thru 8)
I. Use service publications. (F1, 6) (C7)
J. Perform in-vehicle and off-vehicle automatic transmission and transaxle repairs. (18, 19)
K. Remove and install a transmission/transaxle assembly from a light truck or automobile. (F1, 8 thru F13)
L. Explain the basic design and operation of a standard and torque converters with a clutch.

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M. Diagnose hydraulically and electrically controlled torque converter clutches. (C7, 18 thru 20) (F6)
N. Discuss the principles of hydraulics and how they are applied to the automatic transmission and transaxles. (C7) (F6)
O. Properly and safely use and maintain tools used for automatic transmission service and repair. (C20)
P. Explain basic gear design, gear combinations, gear ratios, and torque multiplication. (C7) (F6)
Q. Describe construction and operation of transmissions that use planetary gear sets in tandem. (C5, 6, and 19) (F10, 12)
R. Describe the purpose and operation of the common reaction members. (C6, 15)
S. Identify the basic components in a hydraulic servo and describe their function. (F10)
T. Diagnose, service, and repair electronic transmissions and transaxles. (C15 thru 20)

III. INSTRUCTIONAL MATERIALS
A. Instructional materials for this course can be found at www.ctcd.edu/books
B. Supplemental Reading: As assigned by the instructor.
C. Audio-visual aids: See resource list at end of this module book.
D. Other instructional material: as selected by the instructor.

IV. COURSE REQUIREMENTS
A. This course is being taught in a self-paced mode. It differs from the traditional college course in that you are allowed to work on your own and at your own speed within limitation. This course is 128 clock hours in length. The student may set his/her own schedule within the time frame the course is offered. You must attend class on the days and at the times you selected when you enrolled in the course. You will have an assigned instructor. If at anytime you do not understand a reading assignment, audio visual presentation or lab work, ask your instructor for assistance. He is there for you!
This module book is designed to inform you of the sequence in which this course will be presented. You must follow this sequence and you must do what the module book says. It contains reading assignments, written assignments, audio visual presentations and lab assignments that you must complete or watch. Written assignments will be turned in as directed by the instructor. Late assignments will not be accepted. You must let your instructor know when you are ready to do a learning activity, performance exam or take a scheduled exam.
B. The student must take notes when viewing filmstrips, slides, or videos. Exams may be taken from audio visual aids, reading and lab assignments. If instructor notes or handouts are given you, you must study them, exams may be taken from these notes also.
C. The instructor may give written assignments or "pop" quizzes as he deems necessary.
D. Performance Exams:

Each student will clean all tools and equipment that they use and properly store them
and clean their work area after the completion of each task.

Certificate Students: All lab work will be completed on an individual basis. The student will receive a "pass" or "fail" on the task. Students who fail to complete a task correctly to industry standards must repeat the task. The instructor will date and initial each performance exam task as it is satisfactorily completed. **NOTE:** Students who have selected the alpha-numeric grading system will be graded as outlined for degree students (see below).

Degree Students: Laboratory tasks (performance exam) will be completed on an individual basis except when limited by tools and/or materials. **Each performance exam is worth a maximum of 5.3 points.** The maximum lab grade is 100 points. The instructor will deduct points from each lab task score for failure to follow safety precautions and/or a failure to complete the project to industry standards. The instructor will date, initial, and post the points earned for each performance exam as it is completed.

E. The following is part of the course requirements: Each student will assist in lab clean-up at the close of the evening classes and will assist in unloading and storing supply shipments. Failure to do so will result in a failure to complete all course requirements and the student could receive an "F" or "N" for the course.

F. There will be seven (7) written examinations in this course (6 module/unit exams and an exit exam). **Written exams must be completed before taking the performance exam for each module.** The exit exam is a comprehensive exam that covers the entire course. Certificate students must score 70% on the exit exam. Certificate students will be allowed to take the exit exam a maximum of three (3) times. Failure to achieve a 70% score on the exit exam in three (3) tries will result in an "N" for the course, and the student must retake the course. **Degree Students should refer to the "grading" section of this outline for guidance.**

G. The student must complete the written assignments to receive a grade. **Written assignments for each unit will be turned in to the instructor prior to starting performance exams for that module. Degree students must complete reading and written assignments at home.**

H. If you have special needs because of learning disabilities or other kinds of disabilities, please feel free to discuss this with the instructor. The instructor will attempt to meet your needs with the assistance of counselors, tutors (Project Pass), and the assistance of Disabilities Services Office. Program/course integrity will not be sacrificed. Students must meet all course requirements.

**GRADING**

Certificate Students: Students will be graded using the standard Skills Center "Pass-Fail" system used for self-paced programs. To satisfactorily complete the written exam, the student must score 80% on tests (except the exit exam, 70%). Students who fail to make 80% on any exam (except the exit exam) must retake the exam. The current test re-take policy will apply to all certificate students. The student must satisfactorily complete all written and performance exams to receive a passing grade ("P") or ("A", “B”, “C”).
**Degree Students:** Students will be graded using an "alpha-numeric" system as outlined below. Grades made on performance and written exams will be the grade received, including the exit exam. **Students will not be allowed to retake written exams or redo performance exams.**

A. Written Exams: Average of written exams will count 40% of the final grade.

B. Completion of written assignments/activities will count 10% of the student's final grade.

C. Performance Exams (Lab work) will count 50% of the final grade.

D. Grade Computations: (Example)

Written Exams Scores: (There will be 7 written exams)

Exam 1 90
Exam 2 80
Exam 3 70
240 divided by 3 = 80 (Average Written Exams)

Written Exam Score Average 80 x 40% = 32 points
Written Assignments 100 x 10% = 10 points
Performance Exam Score 80 x 50% = 40 points
Total = 82 points = B

**V. NOTES AND ADDITIONAL INSTRUCTIONS FROM THE COURSE INSTRUCTOR**

A. **Course Withdrawal:** It is the students responsibility to officially withdraw from a course if circumstances prevent attendance. Any student who desires to, or must, officially withdraw from a course after the first scheduled class meeting must file a Central Texas College Application for Withdrawal (CTC Form 59). The withdrawal form must be signed by the student.

CTC Form 59 will be accepted at any time prior to Friday of the 12th week of classes during the 16-week fall and spring semester. The deadline for sessions of others lengths is:

- 10-week session Friday of the 8th week
- 8-week session Friday of the 6th week
- 5-week session Friday of the 4th week

The equivalent date (75% of the semester) will be sued for session of other lengths. The specific last day to withdraw is published each semester in the Schedule Bulletin.

A student who officially withdrwaes will be awarded the grade of W provided the students attendance and academic performance are satisfactory at the time of official withdrawal. Students must file a withdrawal application with the College before they may be considered for withdrawal.

A student may not withdraw from a class for which the instructor has previously issued the student a grade of F, N, FN, or XN for nonattendance.
B. **Administrative Withdrawal:** An administrative withdrawal may be initiated when the student fails to meet College attendance requirements. The instructor will assign the appropriate grade on CTC Form 59 for submission to the registrar.

C. **Incomplete Grade:** The College Catalog states, An incomplete grade may be given in those cases where the student has completed the majority of the coursework but, because of personal illness, death in the immediate family, or military orders, the student is unable to complete the requirements for a course... Prior approval from the instructor is required before the grade of “I” for Incomplete is recorded. A student who merely fails to show for the final examination will receive a zero for the final and an F for the course.

D. **Cellular Phones and Beepers:** Cellular phones and beepers will be turned off while the student is in the classroom or laboratory.

E. **Americans With Disabilities Act (ADA):** Disability Support Services provide services to students who have appropriate documentation of a disability. Students requiring accommodations for class are responsible for contacting the Office of Disability Support Services (DSS) located on the central campus. This service is available to all students, regardless of location. Explore the website at www.ctcd.edu/disability-support for further information. Reasonable accommodations will be given in accordance with the federal and state laws through the DSS office.

F. **Instructor Discretion:** The instructor reserves the right of final decision in course requirements.

G. **Civility:** Individuals are expected to be cognizant of what a constructive educational experience is and respectful of those participating in a learning environment. Failure to do so can result in disciplinary action up to and including expulsion.

H. Absence from the class may be unavoidable in some situations. These include illness, military/civilian job requirements, or a death in the immediate family. Documentation is required in the case of excused absences for job requirements. Excuses will be on company letterhead stationary signed by the immediate supervisor stating the reason for the absence for civilian jobs. Excuses for military personnel must be signed by the 1st Sergeant or the Company Commander. **NOTE: This does not apply to VA, VA/Voc, or Financial Aid students. There are no excused absences for these students. Talk to your funding agency if you have questions.**

Disability Support Services provides services to students who have appropriate documentation of a disability. Students requiring accommodations for class are responsible for contacting the Office of Disability Support Services (DSS) located on the central campus. This service is available to all students, regardless of location. Review the website at www.ctcd.edu/disability-support for further information. Reasonable accommodations will be given in accordance with the federal and state laws through the DSS office.
VI.  FIRST CLASS MEETING

A. The instructor will introduce the course and show the student the textbook.

B. The instructor will verify the class roster/enrollment form:
   1. Call roll
   2. Have each student verify the spelling of his/her name and the social security number by initialing the class roster/enrollment form.
      NOTE: When a student's name does not appear on the degree program class roster, they must bring it to the attention of the instructor and must present the instructor with CTC Form 29 (Add/Drop Slip) or Student Data Form reflecting that he/she has properly registered for the course.

C. The instructor will have the student read and sign the course requirements sheet.

D. The instructor will discuss the following topics with the student:
   1. Course requirements, objectives, and how the course works
   2. Policy letters
   3. Student handouts
   4. Lab sheet and lab work (Learning activities, Performance exams, Competency Profile)
   5. Exam, grading, reading and written assignments
   6. Absences
   7. Shop/classroom cleanup-tools
   8. Dress Code
   9. Parking
   10. Sign-in computer
   11. Course outline/fact sheets/student handouts
   12. Hazardous communications/MSDS information
   13. Shop safety
I. Module 2425-01: Introduction, Safety, and Drive Train Theory.

A. Time:
   Degree Student: 2 Weeks
   Certificate Student: 10 Clock Hours

B. Module Learning Outcomes: Upon completion of this module the student will:
   1. Identify major components of a vehicle drive train. (C5, 6)
   2. Describe the major differences between a transmission and a transaxle. (C6, 19)
   3. Utilize appropriate safety procedures. (C5, 6, 15, 18 thru 20)
   4. Describe and demonstrate some of the special tools used to service automatic transmissions and transaxles. (C18 thru C20)
   5. Describe the measurements normally taken by an automatic transmission technician. (F4, 6, and 10)
   6. Using math and measuring instruments, determine the corrective action to take when end clearances are not within specifications. (F1, 3, 4, 9, 11 and F12)

C. Read Chapters 1 and 2 in Resource AUMT 2425-01 and Chapters 1 and 2 in Resource AUMT 2425-02 and complete all of the review questions at the end of each chapter in each resource.

D. View Audio Visuals: (See your instructor) **Student must take notes.**
   1. "Drive Train Theory and General Operation" segment of resource AUMT 2425-03.

E. Read any handouts that the instructor may have given you that pertain to automotive automatic transmissions and transaxles theory.

F. Ask your instructor to show you the various automatic transmission designs on vehicles in the shop. Ask him to point out and explain the function of any component that you do not understand.

G. Refer to the Laboratory Learning Activities (Lab Sheet) in this module book and complete the learning activities for this module. (See your instructor)

H. Ask your instructor if there is any additional information that you should read or see that pertains to drive train theory or operations.

I. Review for Module 2425-01 written exam: Study all previous assignments in this module. See your instructor and ask him to explain any area that you do not understand.
J. Module 2425-01 written exam: (See your instructor)

K. Critique Module 2425-01 written exam: See your instructor.

L. Performance Exam 2425-01: Refer to the Laboratory Learning Activities (Lab Sheet) in this module book and complete the Performance exam for this module. (See your instructor)

M. Degree students must complete this exam by the end of the 2nd week. Certificate students should complete this exam by the end of the 10th clock hour.
II. Module 2425-02: General Theories of Operation and Electronic Controls

A. Time:
   Degree Student: 2 Weeks
   Certificate Student: 22 Clock Hours

B. Module Learning Outcomes: Upon completion of this module the student will:

1. Utilizing the appropriate safety procedures, the student will diagnose electronic, mechanical and vacuum control systems. (C5 thru 7) (F6, 9)
2. Perform automatic transmission and transaxle diagnosis by conducting oil pressure tests, make necessary adjustments, determine needed repairs, and perform needed maintenance. (C18, 19) (F9 thru F12)
3. Utilizing appropriate electronic testing devices, inspect, test, adjust, and/or replace transmission related electrical/electronic components. (C5 thru 8) (C18 thru 10) (F8 thru 10)
4. Discuss electronic automatic transmissions and transaxles. (F6, 8, 9, and F11)
5. Use service publications. (F1, 6) (C7)

C. Read Chapters 3 and 4 in the Resource AUMT 2425-01 and Chapter 3 and 4 in Resource 2425-02 and complete all of the review questions at the end of each chapter in each resource.

D. View Audio Visuals: (See your instructor).

E. Read any handouts that the instructor may have given you that pertain to diagnosis and basic adjustments of automatic transmissions and transaxles.

F. See your instructor and have him demonstrate the proper use of tools and equipment associated with adjusting an automatic transmission and transaxle.

G. Refer to the Laboratory Learning Activities (Lab Sheet) in this module book and complete the learning activities for this module. (See your instructor)

H. Ask your instructor if there is any additional information that you should read or see that pertain to automatic transmissions.

I. Review for Module 2425-02 written exam: Study all previous assignments in this module. See your instructor and ask him to explain any area that you do not understand.

J. Module 2425-02 written exam: (See your instructor)

K. Critique Module 2425-02 written exam: See your instructor

L. Performance Exam 2425-02: Refer to the Laboratory Learning Activities (Lab Sheet) in this module book and complete the Performance exam for this module. (See your instructor)

M. Degree students must complete this exam by the end of the 4th week. Certificate students should complete this exam by the end of the 32nd clock hour.
III. Module 2425-03: Transmission Designs and Rebuilding Transmissions and Transaxles

A. Time:
   Degree Student: 3 Weeks
   Certificate Student: 33 Clock Hours

B. Module Learning Outcomes: Upon completion of this module the student will:

1. Perform in-vehicle and off-vehicle automatic transmission and transaxle repairs. (C18, 19)
2. Remove and install a transmission/transaxle assembly from a car or light truck. (F1, 8 thru F13)
3. Use service publications. (F1, 6) (C7)
4. Practice shop safety. (C5, 6, 15, 18 thru 20) (F1, 8 thru 10)

C. Read Chapter 5 in Resource AUMT 2425-01 and Resource 2425-02 and complete all of the review questions at the end of each chapter in each resource.

D. View Audio Visuals: (See your instructor) Student must take notes.

   1. "Common Automatic Transmissions" segment of resource AUMT 2425-03.

E. Read any handouts that the instructor may have given you that pertain to planetary gears, shafts and bearing service.

F. See your instructor and have him demonstrate the proper use of tools and equipment associated with servicing an automatic transmission and transaxle.

G. Refer to the Laboratory Learning Activities (Lab Sheet) in this module book and complete the learning activities for this module. (See your instructor)

H. Ask your instructor if there is any additional information that you should read or see that pertain to automatic transmissions.

I. Review for Module 2425-03 written exam: Study all previous assignments in this module. See your instructor and ask him to explain any area that you do not understand.

J. Module 2425-03 written exam: (See your instructor)

K. Critique Module 2425-03 written exam: See your instructor

L. Performance Exam 2425-03: Refer to the Laboratory Learning Activities (Lab Sheet) in this module book and complete the Performance exam for this module. (See your instructor)

M. Degree students must complete this exam by the end of the 7th week. Certificate students should complete this exam by the end of the 65th clock hour.
IV. Module 2425-04: Torque Converter and Oil Pump Service

A. Time:
   Degree Student  2 Weeks
   Certificate Student  10 Clock Hours

B. Module Learning Outcomes: Upon completion of this module the student will:
   1. Use service publications.  (F1, 6) (C7)
   2. Practice shop safety.  (C5, 6, 15, 18 thru 20) (F1, 8 thru 10)
   3. Explain the basic design and operation of a standard and torque converters.
   4. Diagnose and service/repair torque converters and torque multipliers.  (C7, 18 thru 20) (F6)

C. Read Chapters 4 and 6 in Resource AUMT 2425-01 and Resource AUMT 2425-02 and complete all of the review questions at the end of each chapter in each resource.

D. View Audio Visuals: (See your instructor) Student must take notes
   1. "Hydraulic Torque Multipliers and Planetary Gear Sets@ segment of resource AUMT 2425-03.

E. Read any handouts that the instructor may have given you that pertain to disassembly and assembly for common automatic transmissions.

F. Ask your instructor to show you the various torque converter designs on vehicles in the shop.  Ask him to point out and explain the function of any component that you do not understand.

G. See your instructor and have him demonstrate the proper use of tools and equipment associated with disassembly and assembly for common automatic transmissions.

H. Refer to the Laboratory Learning Activities (Lab Sheet) in this module book and complete the learning activities for this module.  (See your instructor)

I. Ask your instructor if there is any additional information that you should read or see that pertains to disassembly and assembly for common automatic transmissions.

J. Review for Module 2425-04 written exam: Study all previous assignments in this module.  See your instructor and ask him to explain any area that you do not understand.

K. Module 2425-04 written exam: (See your instructor)

L. Critique Module 2425-04 written exam: See your instructor.

M. Performance Exam 2425-04: Refer to the Laboratory Learning Activities (Lab Sheet) in this module book and complete the Performance exam for this module.  (See your instructor)
N. Degree students must complete this exam by the end of the 9th week. Certificate students should complete this exam by the end of the 75th clock hour.
V. Module 2425-05: Transmission Hydraulic Circuits, Controls, and System Service

A. Time:
   Degree Student 2 Weeks
   Certificate Student 10 Clock Hours

B. Module Learning Outcomes: Upon completion of this module the student will:
   1. Discuss the principles of hydraulics and how they are applied to the automatic transmission and transaxles. (C7) (F6)
   2. Properly and safely use and maintain tools used for automatic transmission service and repair. (C20)
   3. Use service publications. (F1, 6) (C7)
   4. Practice shop safety. (C5, 6, 15, 18 thru 20) (F1, 8 thru 10)

C. Read Chapter 7 in Resource AUMT 2425-01 and Resource AUMT 2425-02 and complete all of the review questions at the end of the chapter in each resource.

D. View Audio Visuals: (See your instructor) **Student must take notes**
   1. AHydraulic Systems and Electronic Auto Transmissions segment of resource AUMT 2425-03.

E. Read any handouts that the instructor may have given you that pertain to transmission hydraulic circuits and controls.

F. See your instructor and have him demonstrate the proper methods used when inspecting hydraulic valve bodies, checking mating surfaces, and spacers. Have your instructor demonstrate how to inspect, adjust, and repair various components associated with the governor assembly.

G. Refer to the Laboratory Learning Activities (Lab Sheet) in this module book and complete the learning activities for this module. (See your instructor)

H. Ask your instructor if there is any additional information that you should read or see that pertains to hydraulic controls and valves that are found in modern transmissions and transaxles.

I. Review for Module 2425-05 written exam: Study all previous assignments in this module. See your instructor and ask him to explain any area that you do not understand.

J. Module 2425-05 written exam: (See your instructor)

K. Critique Module 2425-05 written exam: See your instructor.

L. Performance Exam 2425-05: Refer to the Laboratory Learning Activities (Lab Sheet) in this module book and complete the Performance exam for this module. (See your instructor)

M. Degree students must complete this exam by the end of the 11th week. Certificate students should complete this exam by the end of the 85th clock hour.
VI. Module 2425-06: Gears and Shaft Service

A. Time:
   Degree Student 2 Weeks
   Certificate Student 10 Clock Hours

B. Module Learning Outcomes: Upon completion of this module the student will:
   1. Use service publications. (F1, 6) (C7)
   2. Practice shop safety. (C5, 6, 15, 18 thru 20) (F1, 8 thru 10)
   3. Explain basic gear design, gear combination, gear ratios, and torque multiplication. (C7) (F6)
   4. Describe construction and operation of transmissions that use planetary gear sets in tandem. (C5, 6, 19) (F10, 12)

C. Read Chapter 8 in Resource AUMT 2425-01 and Resource AUMT 2425-02 and complete all of the review questions at the end of each chapter in each resource.

D. Review Audio Visuals: (See your instructor) **Student must take notes**

E. Read any handouts that the instructor may have given you that pertains to planetary gear set operation. Ask your instructor to show you various planetary gear sets and explain their operation.

F. See your instructor and have him demonstrate the proper use of tools and equipment associated with measuring thrust washers, removing and installing various seals, bushings, bearings, and retainers.

G. Refer to the Laboratory Learning Activities (Lab Sheet) in this module book and complete the learning activities for this module. (See your instructor)

H. Ask your instructor if there is any additional information that you should read or see that pertains to test procedures an electronic transmission control systems.

I. Review for Module 2425-06 written exam: Study all previous assignments in this module. See your instructor and ask him to explain any area that you do not understand.

J. Module 2425-06 written exam: (See your instructor)

K. Critique Module 2425-06 written exam: See your instructor.

L. Performance Exam 2425-06: Refer to the Laboratory Learning Activities (Lab Sheet) in this module book and complete the Performance exam for this module. (See your instructor)

M. Degree students must complete this exam by the end of the 13th week. Certificate students should complete this exam by the end of the 95th clock hour.
VII. Module 2425-07: Reaction and Friction Units

A. Time:
   Degree Students 1 Week
   Certificate students 10 Clock Hours

B. Module Learning Outcomes: Upon completion of this module the student will:
   1. Use service publications. (F1, 6) (C7)
   2. Practice shop safety. (C5, 6, 15, 18 thru 20) (F1, 8 thru 10)
   3. Describe the purpose and operation of the common reaction members. (C6, 15)
   4. Identify the basic components in a hydraulic servo and describe their function. (F10)

C. Read Chapter 9 in Resource AUMT 2425-01 and Resource AUMT 2425-02 and complete all of the review questions at the end of each chapter in each resource.

D. Review Audio Visuals: (See your instructor) Student must take notes.

E. Read any handouts that the instructor may have given you that pertains to transmission component identification.

F. See your instructor and have him demonstrate the proper methods used while adjusting bands, internally and externally. Ask your instructor to show you the proper method used when air testing the operation of clutch packs and servo assemblies.

G. Refer to the Laboratory Learning Activities (Lab sheet) in this module book and complete the learning activities for this module. (See your instructor)

H. Ask your instructor if there is any additional information that you should read or see that pertains to test procedures an electronic transmission control systems.

I. Review for Module 2425-07 written exam: Study all previous assignments in this module. See your instructor and ask him to explain any area that you do not understand.

J. Module 2425-07 written exam: (See your instructor)

K. Critique Module 2425-07 written exam: See your instructor.

L. Performance Exam 2425-07: Refer to the Laboratory Learning Activities (Lab Sheet) in this module book and complete the Performance exam for this module. (See your instructor)

M. Degree students must complete this exam by the end of the 14th week. Certificate students should complete this exam by the end of the 105th clock hour.
VIII. Module 2425-08. Rebuilding Common Automatic Transmissions and Transaxles

A. Time:
   Degree Student 1 Week
   Certificate Student 15 Clock Hours

B. Module Learning Outcomes: Upon completion of this module the student will:
   1. Use service publications. (F1,
   2. Practice shop safety. (C5, 6, 15, 18 thru 20) (F1, 8 thru 10)
   3. Perform in-vehicle and off-vehicle automatic transmission and transaxle repair. (C18, 19)
   4. Diagnose, service, and repair electronic transmissions and transaxles

C. Read Chapter 10 in Resource AUMT 2425-01 and Resource AUMT 2425-02 and complete all of the review questions at the end of each chapter in each resource.

D. Review Audio Visuals: (See your instructor) Student must take notes.

E. Read any handouts that the instructor may have given you that pertain to electronic automotive transmissions and servicing of the control systems.

F. See your instructor and have him demonstrate the proper use of tools and equipment.

G. Refer to the Laboratory Learning Activities (Lab Sheet) in this module book and complete the learning activities for this module. (See your instructor)

H. Ask your instructor if there is any additional information that you should read or see that pertains to test procedures an electronic transmission control systems.

I. Review for Module 2425-08 written exam: Study all previous assignments in this module. See your instructor and ask him to explain any area that you do not understand.

J. Module 2425-08 written exam: (See your instructor)

K. Critique Module 2425-08 written exam: See your instructor.

L. Performance Exam 2425-08: Refer to the Laboratory Learning Activities (Lab sheet) in this module book and complete the Performance exam for this module. (See your instructor)

M. Degree students must complete this exam by the end of the 15th week. Certificate students should complete this exam by the end of the 120th clock hour.
IX. Module 2425-09: Exit Exam

A. Time:
   Degree Students 1 Week
   Certificate Students 8 Clock Hours

B. Module Learning Outcomes: Upon completion of this module the student will:
   1. Use basic thinking skills and demonstrate personal qualities and work practices used in the work place.
   2. Complete the Exit Exam.

C. Review for Exit Exam: Review all previous assignments.

D. See your instructor and ask him to explain anything that you do not understand about automotive automatic power trains.

E. Module 2425-09 (Exit) Exam: (See your instructor.) Degree students must complete this exam by the end of the 16th week. Certificate students must complete their exam by the end of the 128th clock hour.

F. Critique Module 2425-09 Written (Exit) Exam: (See your instructor.)

G. There is no performance exam for this module.

H. End of Course critique and enrollment in the next course in the program. (See your instructor.)