

## FLORIDA STATE COLLEGE AT JACKSONVILLE

## COLLEGE CREDIT COURSE OUTLINE

COURSE NUMBER: AER 1993

COURSE TITLE: Automotive Internship III

PREREQUISITE(S): None

COREQUISITE(S): None

CREDIT HOURS: 1

CONTACT HOURS/WEEK: up to 20 hours/week

CONTACT HOUR BREAKDOWN:

Lecture/Discussion:

Laboratory:

Other \_\_\_\_\_:

FACULTY WORKLOAD POINTS: Calculated on the # of students in the internship

STANDARDIZED CLASS SIZE ALLOCATION: 24

CATALOG COURSE DESCRIPTION:

This course is a companion to Engines and Clutch and Transmissions. In order to meet the State of Florida, N.A.T.E.F., and General Motors ASEP standard interns must complete 100 hours on-the-job learning experience in Engine Repairs, number 09.0-09.61 and 100 hours on-the-job learning experience in Manual Drive Train and Axle related repairs, task number 11.00-11.76. While working under the mentorship of an experienced technician, students must document the required hours and master student performance standards.

SUGGESTED TEXT(S): N/A

IMPLEMENTATION DATE: Spring Term 1999

REVIEW OR MODIFICATION DATE: Fall Term, 2002 (20031)

PROGRAM TITLE: Automotive Service Management Technology

COURSE TITLE: Automotive Internship III

CIP NUMBER: 0615.080300

LIST PERFORMANCE STANDARD ADDRESSED:

NUMBER(S): TITLES(S):

09.0 DEMONSTRATE PROFICIENCY IN ENGINE THEORY AND REPAIR--The student will be able to:

DEMONSTRATE KNOWLEDGE IN THE OPERATION AND SERVICING OF AUTOMOTIVE--CYLINDER HEAD AND VALVE TRAIN DIAGNOSIS AND REPAIR --The student will understand the theory and application of the following standards:

- 09.13 Remove cylinder head(s); inspect cylinder head(s) for cracks; check gasket surface areas for warpage and leakage; check passage condition. P-2
- 09.15 Inspect and test valve springs for squareness, pressure, free height comparison; replace as needed. P-2
- 09.16 Inspect valve spring retainers, locks, and valve grooves. P-2
- 09.19 Inspect valves; resurface or replace. P-3
- 09.20 Inspect valve seats; resurface or replace. P-3
- 09.21 Check valve face-to-seat contact and valve seat concentricity (runout); service seats and valves as needed. P-3
- 09.21 Check valve spring assembled height and valve stem height; service valve and spring assemblies as needed. P-3
- 09.25 Adjust valves (mechanical or hydraulic lifters). P-1
- 09.27 Inspect camshaft for runout; measure journals and lobes for wear. P-3
- 09.28 Inspect and measure camshaft bearings for wear, damage, out-of-round, and alignment; determine needed repairs. P-3
- 09.29 Verify camshaft(s) timing according to manufacturer's specifications and procedure. P-2

DEMONSTRATE PROFICIENCY IN THE OPERATION AND SERVICING OF AUTOMOTIVE--CYLINDER HEAD AND VALVE TRAIN DIAGNOSIS AND REPAIR--The student will be able to perform the following practical skills standards:

- 09.13 Remove cylinder head(s); inspect cylinder head(s) for cracks; check gasket surface areas for warpage and leakage; check passage condition. P-2
- 09.14 Install cylinder heads and gaskets; tighten according to Manufacturer's specifications and procedures. P-2
- 09.15 Inspect and test valve springs for squareness, pressure, free height comparison; replace as needed. P-2
- 09.16 Inspect valve spring retainers, locks, and valve grooves. P-2
- 09.17 Replace valve stem seals. P-2
- 09.18 Inspect valve guides for wear; check valve guide height and stem-to-guide clearance; recondition or replace as needed. P-2

## LIST PERFORMANCE STANDARD ADDRESSED: (CONTINUED)

NUMBER(S):	TITLES(S):
09.19	Inspect valves; resurface or replace. P-3
09.20	Inspect valve seats; resurface or replace. P-3
09.21	Check valve face-to-seat contact and valve seat concentricity (runout); service seats and valves as needed. P-3
09.22	Check valve spring assembled height and valve stem height; service valve and spring assemblies as needed. P-3
09.23	Inspect pushrods, rocker arms, rocker arm pivots and shafts for wear, bending, cracks, looseness, and blocked oil passages (orifices); repair or replace. P-2
09.24	Inspect hydraulic or mechanical lifters; replace as needed. P-2
09.25	Adjust valves (mechanical or hydraulic lifters). P-1
09.26	Inspect and replace camshaft drives (including gear wear and backlash, sprocket and chain wear, overhead cam drive sprockets, drive belts, belt tension, and tensioners). P-2
09.26	Inspect camshaft for runout; measure journals and lobes for wear. P-3
09.28	Inspect and measure camshaft bearings for wear, damage, out-of-round, and alignment; determine needed repairs. P-3

DURING THE INTERNSHIP PORTION OF THIS PROGRAM THE STUDENT WILL DEMONSTRATE PROFICIENCY IN THE OPERATION AND SERVICING OF AUTOMOTIVE -- CYLINDER HEAD AND VALVE TRAIN DIAGNOSIS AND REPAIR -- The student will be evaluated on the following practical skills standards:

09.13	Remove cylinder head(s); inspect cylinder head(s) for cracks; check gasket surface areas for warpage and leakage; check passage condition. P-2
09.14	Install cylinder heads and gaskets; tighten according to Manufacturer's specifications and procedures. P-2
09.15	Inspect and test valve springs for squareness, pressure, free height comparison; replace as needed. P-2
09.16	Inspect valve spring retainers, locks, and valve grooves. P-2
09.17	Replace valve stem seals. P-2
09.18	Inspect valve guides for wear; check valve guide height and stem-to-guide clearance; recondition or replace as needed. P-2
09.19	Inspect valves; resurface or replace. P-3
09.20	Inspect valve seats; resurface or replace. P-3
09.21	Check valve face-to-seat contact and valve seat concentricity (runout); service seats and valves as needed. P-3
09.22	Check valve spring assembled height and valve stem height; service valve and spring assemblies as needed. P-3
09.23	Inspect pushrods, rocker arms, rocker arm pivots and shafts for wear, bending, cracks, looseness, and blocked oil passages (orifices); repair or replace. P-2
09.24	Inspect hydraulic or mechanical lifters; replace as needed. P-2
09.25	Adjust valves (mechanical or hydraulic lifters). P-1
09.26	Inspect and replace camshaft drives (including gear wear and backlash, sprocket and chain wear, overhead cam drive sprockets, drive belts, belt tension, and tensioners). P-2
09.27	Inspect camshaft for runout; measure journals and lobes for wear. P-3

LIST PERFORMANCE STANDARD ADDRESSED: (CONTINUED)

NUMBER(S):            TITLES(S):

09.28    Inspect and measure camshaft bearings for wear, damage, out-of-round, and alignment; determine needed repairs. P-3

Means of Evaluation: The EMPLOYEE INTERNSHIP EVALUATION REPORT and a weekly STUDENT WORK REPORT will be utilized.