Employability Competencies

Personal Characteristics

Directions: Rate the student by checking the appropriate number on each scale. The ratings should be based on your **observation of the student** rather than the grades given in class.

Rating Scale: 3 Above Average
2 Average
1 Below Average

3	2	1	
			Personal Characteristics
			1. Relations with others (effectiveness in working with students, instructors, and others; cooperation; shows respect)
			2. Dependability (attendance, punctuality, adherence to schedules and deadlines; consistency and results; perseverance)
			3. Work attitudes (willingness to learn; willingness to accept and profit from evaluation; enthusiasm; initiative; commitment; pride in work)
			4. Communication (listening, speaking, and nonverbal skills; effectiveness in communicating with students; teachers, and others)
			5. Personal hygiene/grooming (personal health care and cleanliness; dresses and maintains self appropriately)
			Others (please specify)
			_____
			_____
			_____

Job Seeking Techniques

Directions: Evaluate the student by checking the appropriate number or letter to indicate the degree of competency. The rating for each task should reflect **employability readiness** rather than the grades given in class.

Rating Scale: 3 Above Average
2 Average
1 Below Average
N No Exposure

3	2	1	0	
				Job Seeking Techniques
				1. Apply information about self and job opportunities in career decision making
				2. Write a resume
				3. Prepare a job application form
				4. Write letters of application and acceptance
				5. Arrange for personal references
				6. Apply job search techniques
				7. Arrange a job interview
				8. Apply job interview techniques
				9. Evaluate job offers (actual or simulated)
				Others (please specify)
				_____
				_____
				_____

Entrepreneurship Awareness

Directions: Evaluate the student by checking the appropriate number or letter to indicate the degree of competency. The rating for each task should reflect **employability readiness** rather than the grades given in class.

Rating Scale: 3 Above Average
2 Average
1 Below Average
N No Exposure

3	2	1	0	
				Entrepreneurship Awareness
				1. Describe five characteristics of a free enterprise economic system (ownership of property, profit motive, risk taking, competition, supply and demand)
				2. Name four forms of business ownership (sole proprietorship, partnership, corporation, cooperative)
				3. Describe advantages and disadvantages of small business ownership
				4. Identify steps necessary to start a business (evaluate need, site selection, marketing plan, financial plan, management plan)
				5. Identify business opportunities related to training
				6. Identify personal traits of the entrepreneur (versatility, aspirations, energy, integrity, adaptability, etc.)
				Others (please specify)
				_____
				_____
				_____

0-6	Date	Dd. Four-Wheel-Drive Diagnosis and Repair	NATEF Task(s)
		1. Diagnose transfer case and determine necessary action	III-E-1; III-E-7
		2. Disassemble, inspect, and clean transfer case	III-E-2 thru 4; III-E-6; III-E-7
		3. Reassemble and adjust transfer case	III-E-2 thru 4; III-E-6; III-E-7
		4. Diagnose hub assemblies and determine necessary action	III-E-5; V-E-1
		5. Disassemble, clean, and inspect hub assemblies	III-E-5; V-E-2
		6. Reassemble and adjust hub assemblies	III-E-5; V-E-2; V-E-7

AUTOMATIC TRANSMISSION AND TRANSAXLE

0-6	Date	Ee. In-Car Transmission and Transaxle Diagnosis and Maintenance	NATEF Task(s)
		1. Diagnose and performance test transmission and transaxle, and determine necessary action	II-A-1 thru 6
		2. Service transmission and cooler and perform adjustments	II-B-1; II-B-2; II-C-5
		3. Inspect, adjust, and replace sensors, cables, and actuators	II-C-1; II-C-2; II-C-6; II-C-7
		4. Inspect and replace external bushings, seals, and gaskets	II-C-3; II-C-4
		5. Inspect, replace, and align power train mounts	II-C-8

0-6	Date	Ff. Out-of-vehicle Transmission and Transaxle Repair	NATEF Task(s)
		1. Remove, disassemble, and clean transmission and transaxle assembly	II-D-1-1 thru 1-7
		2. Clean and inspect oil pump and converter	II-D-2-1 thru 2-4
		3. Clean and inspect gear train, shafts, bushings, and case	II-D-3-1 thru 3-9
		4. Clean and inspect friction and reaction units	II-D-4-1 thru 4-5
		5. Reassemble automatic transmission and transaxle assembly, check end-play and adjustments, and install assembly	II-B-1; II-B-2; II-C-5; II-C-8; II-D-1-1; II-D-1-2; II-D-1-7

HEATING AND AIR CONDITIONING

0-6	Date	Gg. Air Conditioning	NATEF Task(s)
		1. Diagnose and performance test A/C and determine necessary action	VII-A-1 thru 3; VII-B-1-1; VII-2-1 thru 2-6; VII-D-1; VII-D-4; VII-D-8
		2. Clean, inspect, and repair A/C system components	VII-B-1-2 thru 1-4; VII-D-1 thru 6
		3. Evacuate and charge A/C system and performance test	VII-A-2 thru 5; VII-E-1 thru 6
		4. Diagnose and repair automatic and electrical temperature control units	VII-C-1; VII-D-1 thru 8

0-6	Date	Hh. Heating System	NATEF Task(s)
		1. Diagnose and repair heating system and determine necessary action	VII-C-1 thru 9; VII-D-1; VII-D-2; VII-D-4 thru 8
		2. Inspect and replace heating system components	VII-C-3 thru 9; VII-D-2; VII-D-5 thru 8

0-6	Date	Leadership Competencies**
		1. Demonstrate an understanding of VICA, its structure and activities
		2. Demonstrate an understanding of one's personal values
		3. Perform tasks related to effective personal management skills
		4. Demonstrate interpersonal skills
		5. Demonstrate etiquette and courtesy
		6. Demonstrate effectiveness in oral and written communication
		7. Develop and maintain a code of professional ethics
		8. Maintain a good professional appearance
		9. Perform basic tasks related to securing and terminating employment
		10. Perform basic parliamentary procedures in a group meeting

*** NOTE: These competencies are addressed in the Missouri VICA Curriculum Guide lessons.*

Name: _____

Directions: Evaluate the student by writing the appropriate number to indicate the degree of competency. The rating for each task should reflect **employability readiness** rather than the grades given in class.

Rating Scale:
0 – **No Exposure** - no experience/knowledge in this area; program/course did not provide instruction in this area
1 – **Unsuccessful Attempt** - unable to meet knowledge or performance criteria and/or required significant assistance
2 – **Partial Demonstration** - met some of the knowledge or performance criteria with or without minor assistance
3 – **Knowledge Demonstrated** - met knowledge criteria without assistance at least once
4 – **Performance Demonstrated** - met performance criteria without assistance at least once
5 – **Repetitive Demonstration** - met performance and/or knowledge criteria without assistance on multiple occasions
6 – **Mastered** - successfully applied knowledge or skills in this area to solve related problems independently

November 1999 • Instructional Materials Laboratory • (800) 669-2465

INTRODUCTION TO AUTOMOTIVE TECHNOLOGY

0-6	Date	A. Safety	NATEF Task(s)
		1. Identify the safe use of chemicals	NONE
		2. Identify the safe use of hand tools	NONE
		3. Identify the safe use of power tools	NONE
		4. Identify the safe use of protective clothing and equipment	NONE
		5. Identify the safe use of fire protection equipment	NONE
		6. Identify the safe use of shop equipment	NONE
		7. Follow Environmental Protection Agency (EPA) and Occupational Safety and Health Act (OSHA) regulations	NONE

0-6	Date	B. Shop Operation	NATEF Task(s)
		1. Communicate with customers and write repair orders	NONE
		2. Estimate time and cost for a job and order parts	NONE
		3. Obtain appropriate repair information from service manuals	NONE
		4. Practice clean and orderly work habits (vehicle, tools, and work area)	NONE

0-6	Date	C. Components and Careers	NATEF Task(s)
		1. Identify basic function and operation of vehicle mechanical components	NONE
		2. Identify automotive technology career opportunities and the duties of a technician	NONE

ELECTRICAL SYSTEMS

0-6	Date	D. General Electrical System Diagnosis	NATEF Task(s)
		1. Check continuity in electrical circuits using test light and voltmeter, oscilloscope, and wiring diagram	VI-A-1 thru 4; VI-A-8; VI-A-9
		2. Check for shorts, opens, and grounds	VI-A-1 thru 3; VI-A-6 thru 10
		3. Measure resistance in electrical circuits using an ohmmeter	VI-A-5; VI-A-8 thru 10
		4. Measure volts with a voltmeter or oscilloscope	VI-A-3; VI-A-8 thru 10
		5. Measure current with an ammeter	VI-A-4; VI-A-8

0-6	Date	E. Battery Diagnosis and Service	NATEF Task(s)
		1. Clean and inspect battery clamps, cables, and connectors	VI-B-3; VI-B-6
		2. Perform battery condition tests	VI-B-1; VI-B-2; VI-B-4
		3. Jump start a vehicle	VI-B-7
		4. Charge and install a battery	VI-B-4; VI-B-5

0-6	Date	P. Engine Completion and Start-up Procedure	NATEF Task(s)
		1. Complete engine assembly and pre-lube	I-B-13; I-C-16; I-D-1
		2. Start engine and set fuel and ignition system to manufacturer's specifications	VIII-C-7; VIII-D-9 thru 13

0-6	Date	Q. Lubrication and Cooling System Diagnosis and Repair	NATEF Task(s)
		1. Inspect and repair oil system and components	I-D-1; I-D-2; I-D-11 thru 13
		2. Perform cooling system tests; determine necessary action	I-D-3; VII-C-2; VIII-F-3 thru 6
		3. Inspect, replace, and adjust drive belts and hoses	I-D-4; I-D-5; VII-C-3; VII-C-4
		4. Replace cooling system components (thermostat, radiator, controllers)	I-D-6; I-D-8 thru 10; VII-C-4; VII-C-7; VII-C-9
		5. Inspect coolant, drain, flush, and refill cooling system with recommended coolant	I-D-7; VII-C-5; VII-C-6
		6. Perform oil and lube service on normally aspirated and turbocharged engines	I-D-13

STEERING AND SUSPENSION SYSTEMS

0-6	Date	R. Steering Systems	NATEF Task(s)
		1. Diagnose steering systems and determine necessary action	IV-A-3 thru 6; IV-A-14; IV-A-21
		2. Clean and inspect power and manual steering gear boxes	IV-A-4
		3. Reassemble, adjust, and install power and manual steering gear boxes	IV-A-7; IV-A-12
		4. Clean and inspect power and manual rack-and-pinion steering rack	IV-A-8; IV-A-9; IV-A-12
		5. Reassemble, adjust, and install power and manual rack-and-pinion steering rack	IV-A-9 thru 11
		6. Inspect and repair steering columns	IV-A-1 thru 3; IV-A-6
		7. Inspect and replace steering linkage components	IV-A-19 thru 21
		8. Inspect, repair, and replace power steering pumps	IV-A-12 thru 18

0-6	Date	S. Diagnose and Repair Front Suspension Systems	NATEF Task(s)
		1. Diagnose conventional and electronic front suspension systems and determine necessary action	IV-B-1-1; IV-B-1-2; IV-B-3-[illegible] IV-B-3-3
		2. Inspect and repair control arm and spring assemblies on conventional systems	IV-B-1-[illegible] IV-B-1-9; IV-B-1-11
		3. Inspect and repair wheel spindles and bearings	IV-B-3-2
		4. Inspect and replace shock absorbers and stabilizer bars	IV-B-1-9; IV-B-3-1

0-6	Date	F.	Starting System Diagnosis and Repair	NATEF Task(s)
		1.	Diagnose starting system and determine necessary action	VI-C-1 thru 4
			Remove, clean, and inspect starter motor and components	VI-C-5; VI-C-6
		3.	Repair or replace starter motor components	VI-C-7

0-6	Date	G.	Charging System Diagnosis and Repair	NATEF Task(s)
		1.	Diagnose charging system and determine necessary action	VI-D-1 thru 4; VI-D-7
		2.	Remove, clean, and inspect generator (alternator)	VI-D-5; VI-D-6
		3.	Repair or replace generator (alternator) components	VI-D-5; VI-D-6
		4.	Repair or replace charging system components	VI-D-3; VI-D-4

0-6	Date	H.	Lighting System Diagnosis and Repair	NATEF Task(s)
		1.	Diagnose lighting system problems and determine necessary action	V-E-6; VI-E-1; VI-E-3
		2.	Repair or replace lights, sockets, wires, and switches	VI-A-11; VI-A-12 VI-E-2; VI-E-3

0-6	Date	I.	Gauges and Electrical Accessories	NATEF Task(s)
		1.	Diagnose and repair gauge and warning circuits	I-D-12; V-E-5; VI-F-1 thru 4
		2.	Diagnose and repair electrical accessories (horn, wiper, windshield washer, motor-driven accessory circuits, heated glass, electric lock, cruise control system, supplemental restraint system, radio)	VI-A-11; VI-A-12; VI-G-1 thru 3; VI-H-1 thru 6

ENGINE PERFORMANCE

0-6	Date	J.	Ignition Systems	NATEF Task(s)
		1.	Conduct engine performance tests using engine analyzer and determine necessary action	VIII-A-1 thru 10; VIII-B-1 thru 6; VIII-B-11; VIII-C-1; VIII-C-2
		2.	Inspect, repair, or replace primary ignition components	VIII-C-3; VIII-C-4; VIII-C-6 thru 9
		3.	Inspect, repair, or replace secondary ignition components	VIII-B-7; VIII-C-4 thru 6
		4.	Adjust ignition system to manufacturer's specifications	VIII-B-7; VIII-C-7
		5.	Perform on-board computer system diagnosis	VIII-B-1 thru 5
		6.	Repair or replace computer system components	VIII-B-5; VIII-B-7 thru 10

0-6	Date	K.	Fuel and Exhaust Systems	NATEF Task(s)
		1.	Diagnose fuel system problems and determine necessary action	VIII-B-1; VIII-B-2; VIII-B-7 thru 10; VIII-D-1 thru 4
		2.	Inspect, repair, or replace fuel supply component	VIII-B-7; VIII-D-3; VIII-D-5; VIII-D-6
		3.	Disassemble, clean, and inspect carburetors	VIII-B-7; VIII-D-8; VIII-D-14
		4.	Reassemble and adjust carburetors	VIII-B-7; VIII-D-6; VIII-D-8; VIII-D-12 thru 14
		5.	Disassemble, clean, and inspect fuel injection components	VIII-B-7; VIII-D-7 thru 11; VIII-D-14
		6.	Repair or replace fuel injection components	VIII-B-7; VIII-D-7 thru 11; VIII-D-14

			bars	
		5.	Diagnose MacPherson strut assemblies and determine necessary action	IV-B-1-2
		6.	Clean, inspect, and assemble MacPherson strut assemblies	IV-B-1

0-6	Date	T.	Diagnose and Repair Rear Suspension Systems	NATEF Task(s)
		1.	Diagnose conventional and electronic rear suspension systems and determine necessary action	IV-B-2-1 thru 2-4; IV-B-3-1 thru 3-3
		2.	Inspect and replace shock and spring assemblies	IV-B-2-1; IV-B-2-3; IV-B-3-1
		3.	Inspect and replace MacPherson strut assemblies	IV-B-2-4; IV-B-3-3
		4.	Inspect and repair suspension linkages and bushings	IV-B-2-2; IV-B-2-3

0-6	Date	U.	Tire and Wheel Alignment Diagnosis and Repair	NATEF Task(s)
		1.	Diagnose steering and tire wear problems and determine necessary action	IV-B-1-1; IV-B-1-2; IV-B-2-3; IV-C-1; IV-D-1 thru 3; IV-D-5; IV-D-6
		2.	Set correct alignment angles on front wheels	IV-C-2 thru 9; IV-C-12; IV-C-13
		3.	Set correct camber and toe on rear wheels	IV-C-2 thru 5; IV-C-10; IV-C-11
		4.	Rotate and balance tire and wheel assemblies	IV-D-1 thru 5; IV-D-7 thru 9

BRAKES

0-6	Date	V.	Diagnose and Repair Hydraulic Systems	NATEF Task(s)
		1.	Diagnose hydraulic brake systems and determine necessary action	V-A-4
		2.	Inspect and repair or replace master cylinders and lines of the hydraulic system	V-A-1 thru 3; V-A-5 thru 7; V-A-11; V-A-12
		3.	Inspect and replace switches and valving devices	V-A-8 thru 12

0-6	Date	W.	Diagnose and Repair Drum Brakes	NATEF Task(s)
		1.	Diagnose drum brake systems and determine necessary action	V-B-1; V-E-1; V-E-4 thru 6
		2.	Remove, clean, and inspect drum brake assemblies	V-B-2 thru 5; V-E-2 thru 4
		3.	Repair, replace, and adjust drum brake components	V-B-5 thru 7; V-E-2; V-E-4; V-E-6; V-E-7

0-6	Date	X.	Diagnose and Repair Disc Brakes	NATEF Task(s)
		1.	Diagnose and determine necessary action on disc brake systems	V-C-1
		2.	Remove, clean, and inspect disc brake components	V-C-2 thru 5; V-C-7; V-C-11; V-E-2 thru 5
		3.	Repair, replace, and adjust disc brake components	V-C-6; V-C-8 thru 11; V-E-2 thru 4; V-E-6; V-E-7

0-6	Date	Y.	Diagnose and Repair Power Assist Brakes	NATEF Task(s)
		1.	Diagnose and determine necessary action on power assist brakes	V-A-1; V-A-4; V-D-1 thru 4
		2.	Repair or replace power brake components	V-D-1 thru 3

		7. Adjust computer-controlled fuel systems (injection and carburetor)	VIII-D-9 thru 13
		8. Diagnose and repair exhaust system problems	VIII-D-15 thru 17

0-6	Date	L. Emission Control Systems	NATEF Task(s)
		1. Diagnose emission control systems and determine necessary action	VIII-D-1; VIII-D-2; VIII-E-1-1; VIII-E-2-1; VIII-E-3-1; VIII-E-4-1; VIII-E-5-1; VIII-E-6-1
		2. Clean, inspect, and replace Positive Crankcase Ventilation (PCV) system components	VIII-E-1-2
		3. Clean, inspect, and replace spark timing controllers	VIII-E-3-2
		4. Clean, inspect, and replace idle speed controllers	VIII-D-12; VIII-D-13
		5. Clean, inspect, and replace exhaust gas recirculation	VIII-E-2-2 thru 2-4
		6. Clean, inspect, and replace air management system	VIII-E-3-2 thru 3-4
		7. Clean, inspect, and replace inlet air temperature control	VIII-E-4-2
		8. Clean, inspect, and replace intake manifold heat controls	VIII-E-4-2
		9. Clean, inspect, and replace fuel vapor controls	VIII-E-5-2; VIII-E-6-2

ENGINE REPAIR

0-6	Date	M. General Engine Diagnosis – Remove and Replace	NATEF Task(s)
		1. Conduct performance tests and determine necessary action	I-A-1 thru 8
		2. Remove and replace engine (front- and rear-wheel drive)	I-A-9 thru 12

0-6	Date	N. Cylinder Head and Valve Train Diagnosis and Repair	NATEF Task(s)
		1. Remove cylinder head(s)	I-B-1
		2. Install cylinder head(s)	I-B-2
		3. Recondition cylinder head(s)	I-B-3 thru 10; I-B-16
		4. Inspect and replace cam and related components	I-B-11 thru 18; VIII-F-1; VIII-F-2

0-6	Date	O. Short Block Diagnosis and Repair	NATEF Task(s)
		1. Inspect and replace pans, covers, gaskets, and seals	I-C-1
		2. Disassemble, inspect, and clean short block assembly	I-C-2 thru 4; I-C-10; I-C-13
		3. Check and record short block measurements	I-C-5
		4. Check and record component measurements	I-C-7 thru 9; I-C-11; I-C-15
		5. Clean and prep block and components for reassembly	I-C-6
		6. Reassemble short block components using correct lubricants, gaskets, sealers, and torque specifications	I-C-12 thru 14

		4. Check operation of anti-lock braking systems, adjust or repair according to manufacturer's recommendations	[illegible]

MANUAL DRIVE TRAIN AND AXLES

0-6	Date	Z. Clutch Diagnosis and Repair	NATEF Task(s)
		1. Diagnose and performance test the clutch assembly and determine necessary action	III-A-1 thru 7; III-A-9
		2. Replace and adjust clutch assembly	III-A-2 thru 9; III-B-1

0-6	Date	Aa. Manual Transmission/Transaxle Diagnosis and Repair	NATEF Task(s)
		1. Diagnose, performance test, and determine necessary action	III-B-4; III-B-13
		2. Remove, disassemble, inspect, and clean manual transmission/transaxle and shift linkages	III-B-1 thru 9; III-B-11; III-B-12; III-B-14 thru 16
		3. Reassemble manual transmission/transaxle assembly, check end-play and adjustments	III-B-1 thru 3; III-B-5 thru 12; III-B-14 thru 16

0-6	Date	Bb. Drive Shaft, CV-Joint and FWD Bearings, Diagnose and Repair	NATEF Task(s)
		1. Diagnose and determine necessary action	III-C-1; III-C-2; III-C-6
		2. Inspect, service, and replace front axle shafts	III-C-3 thru 5
		3. Inspect, service, and replace drive shafts	III-C-2; III-C-5; III-C-6; III-D-3-1 thru 3-5

0-6	Date	Cc. Differential Diagnosis and Repair	NATEF Task(s)
		1. Diagnose and determine necessary action	III-D-1-1; III-D-1-2; III-D-2-1; III-D-3-1
		2. Disassemble, clean, and inspect differential assembly	III-D-1-3 thru 1-5; III-D-1-10; III-D-2-2; III-D-2-3
		3. Reassemble and adjust differential assembly	III-D-1-3; III-D-1-5 thru 1-11; III-D-2-1 thru 2-4; III-D-3-2 thru 3-5