

DIXIE STATE COLLEGE
Automotive Electrical Systems
Spring 2009
AUTO 2100-01 CRN 20961

PRE-REQUISITES: None

CREDIT HOURS: Six Credits

INSTRUCTOR: Mel Jensen Office: TE 104 Phone: 652-7853
 Office Hours MTWR- 7:00am - 8:00 am
 W-3:00pm-4:00pm
 Email jensenm@dixie.edu

CLASS SCHEDULE: Jan. 1 2009-May 1 2009
 MTWR 8 Am - 9:50 Am

TEXT: Latest Addition per ASE Requirements
 Modern Automotive Technology and Workbook
 James E Duffy

CLASS DESCRIPTION:

This course involves electrical theory and diagnostic skills in automotive computer systems. Course curriculum includes: lab and lecture, guest speakers, audio/visual tapes, and hands-on performance on vehicles. Completers should be able to pass ASE Certificate Test and should be able to work electrical systems for an entry level job.

Lab is required.

REQUIRED MATERIALS:

One pair of safety glasses or goggles.
Basic hand tools.

SAFETY REQUIREMENTS:

Students must complete safety training before live work. All lab work complies with OSHA and EPA safety standards. Students are required to read and obey safety rules posted in the shop.

ATTENDANCE & GRADING

This is a performance class. Students must be in attendance to perform, and grades are in direct relation to standards of performance. Grades will be based on the following:

Grading:	Attendance (60)	600 points
	Task List (49)	245 points
	Work Orders (10)	400 points
	Midterm	200 points
	<u>Final</u>	<u>200 points</u>
	Total	1645 points

If you are a student with a medical, psychological or a learning difference and requesting reasonable academic accommodations due to this disability, you must provide an official request of accommodation to your professor(s) from the Disability Resource Center within the first two weeks of the beginning of classes. Students are to contact the center on the main campus to follow through with, and receive assistance in the documentation process to determine the appropriate accommodations related to their disability.

You may call (435) 652-7516 for an appointment and further information regarding the Americans with Disabilities Act (ADA) of 1990 per Section 504 of the Rehabilitation Act of 1973.

Our office is located in the Student Services Center, Room #201 of the Edith Whitehead Building.

3-34 ACADEMIC DISCIPLINE

34.1 Cheating: Academic dishonesty in any form will not be tolerated at Dixie State College, including but not limited to plagiarism on written assignments, submitting other person's work as one's own, and cheating on exams or quizzes. Teachers at Dixie State College may discipline students proven guilty of academic dishonesty by:

34.1.1 Giving a failing grade on the specific assignment where dishonesty occurred,

34.1.2 Failing the student in the entire course,

34.1.3 Immediately dismissing and removing the student from the course, and/or

34.1.4 Referring the student to Student Affairs, a committee which may reprimand, place on probation, suspend, and/or expel the student.

34.2 Disruptive Behavior: Teachers at Dixie State College have the right to manage the classroom environment to ensure a good learning climate. Toward this end, teachers (or college security) may dismiss and remove disruptive students from individual class activities. If a student's behavior continues to disrupt class activities, the teacher may dismiss and cause the removal of disruptive students from their course.

The following is required of all Automotive Students enrolled in any Automotive Class:

- 1) Each student is required to purchase their own safety glasses or goggles.
- 2) If you are working on another person's car, the car's owner is required to furnish all parts and expenses for the repair.
- 3) NO LABOR FEES CAN BE CHARGED on any repairs or work performed in the Dixie College automotive shop.
- 4) A basic hand tool set is required for each student it should include the following: 3/8 drive socket set, 1/4 drive socket set, 4 pc. Pliers set, a Phillips and flat blade screwdriver set, and metric- standard wrench sets.

I understand and will comply with the above statements:

Name _____

Date _____

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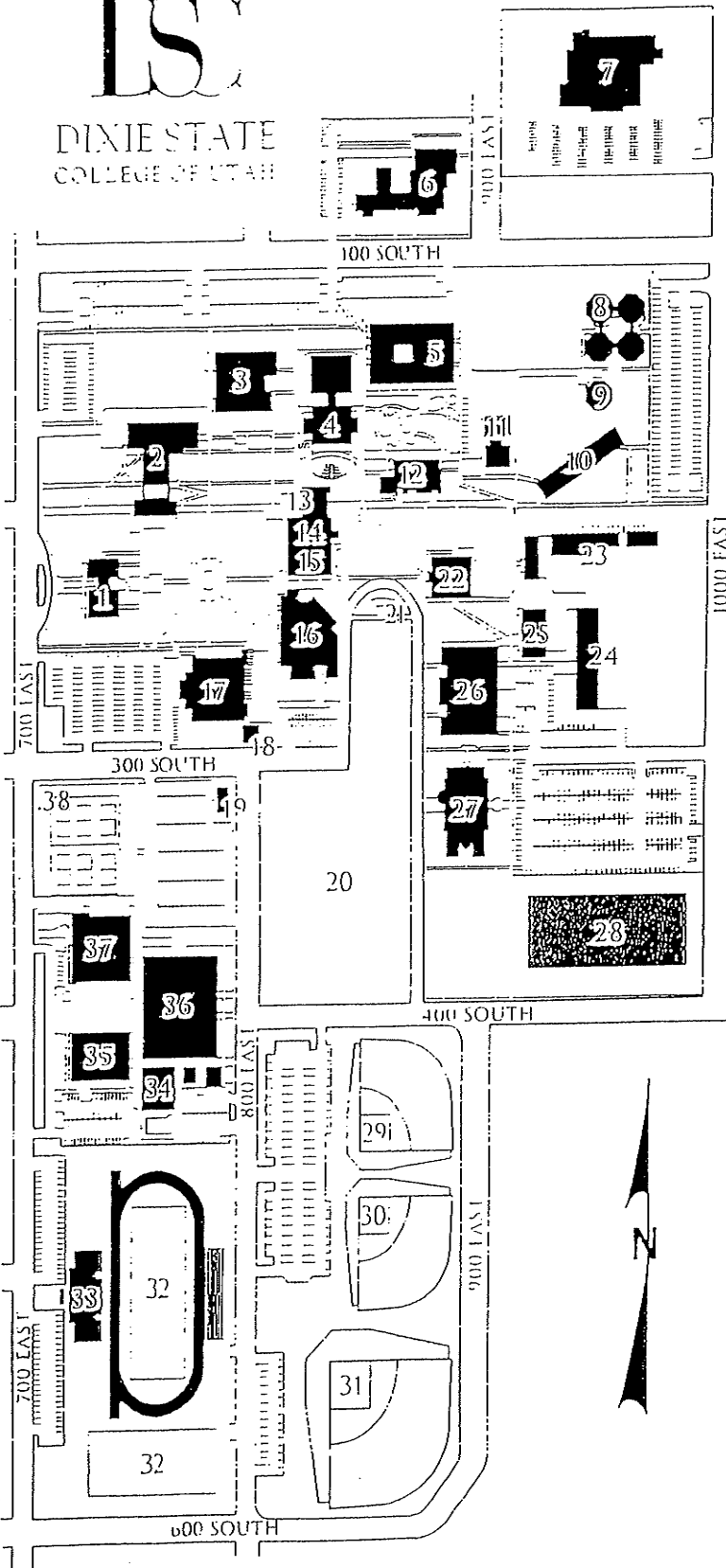
I understand and will comply with the above statements:

Name _____

Date _____

CAMPUS MAP

DSU
DIXIE STATE
COLLEGE OF UTAH



DIRECTORY








1. Administration (ADM)
2. Graff Fine Arts Center (FAC)
3. Family and Health Building (FCS)
4. Val A. Browning Library (LIB)
5. Science & Math Building (SCI)
6. Present Institute Building
7. North Plaza (NPZ)
8. Nisson Towers
9. Housing Office
10. Shiloh Dorms
11. Plant Operations
12. Browning Learning Resource Center (BRN)
13. Advisement Center & Financial Aid (ADV)
14. Edith S. Whitehead Student Services Center (SSC)
15. Cafeteria
16. Kenneth N. Gardner Student Center (GAR)
17. Gymnasium (GYM)
18. Racquetball Courts (RAQ)
19. Community Education (CED)
20. Encampment Mall
21. Encampment Mall Monument
22. McDonald Center for the Humanities and Social Sciences (MCD)
23. Heating Plant
24. Automotive Technology Building (AUT)
25. Technology (TEC)
26. Jennings Technology (JEN)
27. Udvar-Hazy School of Business (UHB)
28. Future Institute Building
29. Eccles Field @ Cooper Diamonds
30. Brooks Field @ Cooper Diamonds
31. Hurst Baseball Field (HST)
32. Football Fields
33. Hansen Football Stadium (HAN)
34. Eccles Fitness Center (FIT)
35. Smith Computer Center (SCC)
36. Burns Arena (BUR)
37. Cox Auditorium (COX)
38. Tennis Courts (TEN)

DIXIE STATE COLLEGE

2008-2009 ACADEMIC CALENDAR

S	Start of Class	CD	Career Day	<i>Note: Faculty & Staff Workshops take place August 17th thru August 22, 2008.</i>
L	Last Day of Class	R	Reading Day	
H	Holiday	F	Final Exams	
SB	Semester Break*	SB	Spring Break	
B	Block Classes Begin	G	Graduation	

[Printer Friendly Version \(pdf\)](#)

August	24	25	S	27	28	29	30
September	31		2	3	4	5	6
	7	8	9	10	11	12	13
	14	15	16	17	18	19	20
	21	22	23	24	25	26	27
October	28	29	30	1	2	3	4
	5	B	7	8	9	10	11
	12	13	14	15			18
	19	20	21	22	23	24	25
	26	27	28	29	30	31	1
November	2	3	4	5	6	7	8
	9	10	11	12	13	14	15
	16	17		19	20	21	22
	23	24	25				29
December	30	1	2	3	4	5	6
	7	8	9	10	11	L	13
	14	F	F	F	F	F	20

January	4	S	6	7	8	9	10
	11	12	13	14	15	16	17
	18	H	20	21	22	23	24
	25	26	27	28	29	30	31
February	1	2	3	4	5	6	7
	8	9	10	11	12	13	14
	15	H	B	18	19	20	21
	22	23	24	25	26	27	28
March	1	2	3	4	5	6	7
	8	9	10	11	12	13	14
	15	SB	SB	SB	SB	SB	21
	22	23	24	25	26	27	28
April	29	30	31	1	2	3	4
	5	6	7	8	9	10	11
	12	13	14	15	16	17	18
	19	20	21	22	L	F	25
May	26	F	F	F	F	G	2

[Return to DSC Home Page](#)



**Please note that you can add and drop your classes online until
January 7th 2009**

REGULAR SEMESTER DATES

Nov 17 -Registration - Seniors (> 90 credits)
 Nov 18 - Registration Juniors (> 60 credits)
 Nov 19 - Registration for Sophomores (> 30 credits)
 Nov 20 - Open Registration
 Jan 5 -Classes Begin
 Jan 7 - Last Day to Add Without Signature
 Jan 19 - Martin Luther King Day
 Jan 20 - \$50 Late Registration/Payment Fee
 Jan 27 - Last Day for Refund
 Jan 27 - Last Day to drop without receiving a W grade
 Jan 27 - Pell Grant Census
 Jan 28 - Students dropped for non-payment
 Jan 30 - Last Day to Add Classes
 Feb 16 - Presidents Day
 Feb 23 - Mid-Term Grades Due
 Feb 27 - Last Day to Drop/Audit Classes
 Mar 16-20 - Semester Break
 Mar 27 - Last Day for Complete Withdrawal
 Apr 23 - Classwork Ends
 Apr 24-30 - Final Exams
 May 1 - Commencement

BLOCK SCHEDULE DATES

Feb 17 - Classes Begin
 Feb 19 - Last Day to Add Without Signature
 Feb 23 - Pell Grant Census
 Feb 23 - \$50 Late Registration/Payment Fee
 Feb 26 - Last Day for Refund
 Feb 26 - Last Day to drop without receiving a W grade
 Feb 27 - Students dropped for non-payment
 Mar 2 - Last Day to Add Classes
 Mar 16-20 - Semester Break
 Mar 23 - Last Day to Drop/Audit Classes
 Mar 27 - Last Day for Complete Withdrawal
 April 23 - Classwork Ends
 Apr 24-30 - Final Exams
 May 1 - Commencement

USEFUL PHONE NUMBERS

(435) 652 - XXXX

Problems registering	7708
Admissions Issues	7706
Need Advisement	7690
Tuition question	7605
Campus Operator	7500

SPRING SEMESTER FIVE-DAY FINAL EXAM SCHEDULE

Friday, April 24		Monday, April 27		Tuesday, April 28		Wednesday, April 29		Thursday, April 30	
Daily, MWF; MW, M Only		Daily, MWF; MW, M Only		TR, T Only		Daily, MWF; MW, M Only		TR, T Only	
Class Time	Exam Time	Class Time	Exam Time	Class Time	Exam Time	Class Time	Exam Time	Class Time	Exam Time
7:00	7:00-9:00	8:00	7:30-9:30	9:00	8:00-10:00	9:00	10:00-12:00	7:30/8:00	7:00-9:00
10:00	9:30-11:30	11:00	10:00-12:00	12:00	11:00-1:00	12:00	12:30-2:30	10:30	9:30-11:30
1:00	12:00-2:00	2:00	12:30-2:30	2:30	2:00-4:00	3:00	3:00-5:00	1:00	12:30-2:30
4:00	2:30-4:30								
Friday Only Classes		MW or M Only Classes		TR or T Only Classes		W Only Classes		R (Thursday) Only Classes	
5:00	5:00	5:00	5:00	5:00	5:00	5:00	5:00	5:00	5:00
7:30	7:30	7:30	7:30	7:30	7:30	7:30	7:30	7:30	7:30

REGISTRATION INSTRUCTIONS

REPAIR ORDER

Dixie State College
Automotive Department

Name _____ Day Phone _____

Make _____ Model _____

Year _____ Color _____ Mileage _____

Description of Complaint: _____

Cause of complaint: (explain in detail)

NOTICE: I understand the primary purpose of this repair is to provide students with hands-on experience. There is no warranty for work performed and any other parts, breakage, or damage expense will be borne by the customer.

Signature of acceptance: _____

Correction: Diagnostic procedure used: (explain in detail)

Student name(s) _____

Instructor auth. _____

GRADING

Sat.	<input type="checkbox"/>	Unsat.	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Job completed to last detail
Cleanliness, doors, hood, steering wheel, seat, upholstery
Effort shown on this job
Work efficiency, planning, pre-study, pre-ordering parts, etc

Performance Rating: 1 2 3 4

Lug torque spect: _____ Inst. witness _____

ELECTRICAL/ELECTRONIC SYSTEMS Auto 2100

**Dixie State College
Mel Jensen Assoc. Professor**

Name: _____ **School Year** _____

Note: Task completion date must be initialed by instructor.

ELECTRICAL/ELECTRONIC SYSTEMS	Date Completed	In
A. General Electrical System Diagnosis		
1. Use wiring diagrams during diagnosis of electrical circuit problems.		
2. Check electrical circuits with a test light; determine necessary action.		
3. Check voltage and voltage drop in electrical/electronic circuits using a digital multimeter (DMM); determine necessary action.		
4. Check current flow in electrical/electronic circuits and components using an ammeter; determine necessary action.		
5. Check continuity and resistance in electrical/electronic circuits and components with an ohmmeter; determine necessary action.		
6. Check electrical circuits using jumper wires; determine necessary action.		
7. Locate shorts, grounds, opens, and resistance problems in electrical/electronic circuits; determine necessary action.		
8. Measure and diagnose the cause(s) of abnormal key-off battery drain; determine necessary action.		
9. Inspect and test fusible links, circuit breakers, and fuses; determine necessary action.		
10. Inspect and test switches, connectors, relays, and wires of electrical/electronic circuits; perform necessary action.		
11. Repair wiring harnesses and connectors.		
12. Perform solder repair of electrical wiring.		
VI. ELECTRICAL/ELECTRONIC SYSTEMS		
B. Battery Diagnosis and Service		
1. Perform battery state-of-charge test; determine needed service.		
2. Perform battery capacity test; determine needed service.		
3. Maintain or restore electronic memory functions.		
4. Inspect, clean, fill, and replace battery.		
5. Perform slow/fast battery charge.		

6. Inspect and clean battery cables, connectors, clamps, and hold-downs; repair or replace as needed.		
7. Start a vehicle using jumper cables and a battery or auxiliary power supply according to manufacturers recommended specifications.		
VI. ELECTRICAL/ELECTRONIC SYSTEMS		
C. Starting System Diagnosis and Repair		
1. Perform starter current draw tests; determine necessary action.		
2. Perform starter circuit voltage drop tests; determine necessary action.		
3. Inspect and test starter relays and solenoids; replace as needed.		
4. Remove and install starter.		
5. Perform starter bench tests; determine necessary action.		
6. Inspect and test switches, connectors, and wires of starter control circuits; perform necessary action.		
7. Disassemble, clean, inspect, and test starter components; replace as needed.		
VI. ELECTRICAL/ELECTRONIC SYSTEMS		
D. Charging System Diagnosis and Repair		
1. Perform charging system output test; determine necessary action.		
2. Diagnose charging system for the cause of undercharge, no-charge, and overcharge conditions.		
3. Inspect and adjust generator (alternator) drive belts; replace as needed.		
4. Inspect and test voltage regulator/regulating circuit; perform necessary action.		
5. Remove, inspect, and install generator (alternator).		
6. Disassemble generator (alternator), clean, inspect, and test components; determine necessary action.		
7. Perform charging circuit voltage drop tests; determine necessary action.		
VI. ELECTRICAL/ELECTRONIC SYSTEMS		
E. Lighting Systems Diagnosis and Repair		
1. Diagnose the cause of brighter than normal, intermittent, dim, or no light operation; determine necessary action.		
2. Inspect, replace, and aim headlights and bulbs.		
3. Inspect and diagnose incorrect turn signal or hazard light operation; perform necessary action		
VI. ELECTRICAL/ELECTRONIC SYSTEMS		
F. Gauges, Warning Devices, and Driver Information Systems Diagnosis and Repair		

1. Inspect and test gauges and gauge sending units for cause of intermittent, high, low, or no gauge readings; determine necessary action.		
2. Inspect and test connectors, wires, and printed circuit boards of gauge circuits; determine necessary action.		
3. Diagnose the cause of incorrect operation of warning devices and other driver information systems; determine necessary action.		
4. Inspect and test sensors, connectors, and wires of electronic instrument circuits; determine necessary action.		
VI. ELECTRICAL/ELECTRONIC SYSTEMS		
G. Horn and Wiper/Washer Diagnosis and Repair		
1. Diagnose incorrect horn operation; perform necessary action.		
2. Diagnose incorrect wiper operation; diagnose wiper speed control and park problems; perform necessary action.		
3. Diagnose incorrect windshield washer operation; perform necessary action.		
VI. ELECTRICAL/ELECTRONIC SYSTEMS		
H. Accessories Diagnosis and Repair		
1. Diagnose incorrect operation of motor-driven accessory circuits; determine necessary action.		
2. Diagnose incorrect heated glass operation; determine necessary action.		
3. Diagnose incorrect electric lock operation; determine necessary action.		
4. Diagnose incorrect operation of cruise control systems; repair as needed.		
5. Diagnose supplemental restraint system (SRS) concerns; determine necessary action. (Note: Follow manufacturer's safety procedures to prevent accidental deployment.)		
6. Diagnose radio static and weak, intermittent, or no radio reception; determine necessary action.		