

AB 182 Structural Damage Estimating

Mondays 6 – 10 PM Room: AT 54 / AT 50

(Holiday: September 4th – Labor Day)

Course Outline & Syllabus – Fall 2006

New Focus:

- *I-CAR Enhanced-Delivery Modules Embedded Within*
- *Chief Automotive Systems Training Embedded Within*
- *VeriFacts Automotive – Principles Embedded Within*

Professor: Charles C. Robertson

Instructor Contact:

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- ❑ ITOutsource, Inc. Website: www.itout.net

Office Hours: Mon, Tue, Thur from 5-6pm Office D

For students with learning or other disabilities, please notify instructor so that reasonable accommodations can be made to assist you in your learning experience.

Course Overview

The course presents the wide range of skills needed to effectively inspect and analyze structural damage to vehicles, determine the extent of damage and select preferred methods of repair. Students will write handwritten and computerized damage reports, itemizing labor, materials, and parts costs required to restore the vehicle pre-accident condition. Additional areas of training include automotive industry standards, rules and regulations, identification of estimator job functions, and methods of determining levels of customer service (CSI). Electronic estimating skills will be developed. This course may be taken for a maximum of 12 units.

- A. Examine vehicles with front end damage, rear end damage, side damage, roll over damage, fire damage, structural damage
- B. Diagnose and analyze the cost and methods of repair for each type
- C. Accurately process appropriate labor repair time units, parts costs, material costs, miscellaneous costs in the form of both a hand-written and computerized estimate
- D. Demonstrate effective use of computer estimating systems
- E. Develop a process of reviewing each written estimate including those of other students to improve accuracy and attention to detail
- F. Process a supplement to an original repair order including all necessary elements and generate it by computer
- G. Be able to identify the components and explain the functions of advanced automotive systems including steering, suspension, electrical/ electronic systems, supplemental restraint system, full frame, unitized and space frame construction.
- H. Calculate the costs related to establishing a computerized estimating system within an office with appropriate equipment and software, including on-going monthly software lease costs
- I. Recite the customer's rights within the law, and the employee's right -to -know laws including the use and handling of hazardous materials
- J. Demonstrate an understanding of the components and benefits of the electronic communication methods
- K. Share your knowledge and understanding of the estimating process and of automotive systems and components with other students - help them learn during normal class learning periods and lab time. (not during testing times).

ASSIGNMENT AND REPORT POLICY

- Estimates due at the end of each class period
- All reports and assignments due on their assigned due date.
- Late assignments lose 1 grade point each week late (e.g. A to B, B to C etc.)
- Exceptions to late reports must be approved by instructor in advance
- Make-up work must be approved in advance by the instructor.
- Final exam required for grade above 'D'
- Certificates presented upon satisfactory completion of AB 181 and AB 182 above grade C

GRADE SUMMARY SHEET

AB 182 Structural Damage Estimating

NAME: _____ TOTAL SCORE: _____ GRADE: _____

Maintain Assignments in a Notebook, Due Dates and Record of Scores:

No.	ASSIGNMENT	DUE DATE	Point Value	My Score
1	Pre-Test of Estimating Knowledge	Week 1	0	
2	Chief Automotive Systems Presentation + Test	Weeks 2-9	100	
3	VeriFacts Automotive Coaching Ride-Along	Weeks 2 - 16	100	
4	I-CAR Enhanced Delivery Modules + Tests (4)	Weeks 2 - 17	200	
5	OEM Repair Requirements + the BAR	Weeks 2 - 17	50	
6	Advanced Automotive Systems	Week 2-17	50	
7	Delmar/ I-CAR Video Series & Quizzes (11)	Weekly	100	
8	Weekly Estimates (15)	Weeks 2 - 17	300	
9	Mid-Term Exam	Week 9	100	
10	Final Exam - Required	Week 18	100	
11	Weekly Attendance (minimum 80%)	Weeks 1-18	100	
Total Percent			1,200	

GRADE DESCRIPTIONS

DESCRIPTION OF PERFORMANCE	PERCENT	GRADE
Performance has been at the <u>highest level</u> , showing sustained excellence in meeting all course requirements and in assisting other students in the learning process.	90-100%	A
Performance has been at a <u>high level</u> , showing consistent and effective achievement in meeting course requirements.	80-89%	B
Performance has been at an <u>adequate level</u> , meeting the basic requirements of the course.	70-79%	C
Performance has been <u>less than adequate</u> , meeting only the minimum course requirements.	60-69%	D
Performance has been such that <u>minimal course requirements have not been met</u> .	0-59%	F

**EMBEDDED Coursework from I-CAR Education
Foundation, Chief Automotive Systems & VeriFacts**

No.	COURSE TITLE	I-CAR CD	Delmar Videos
	I-CAR Enhanced-Delivery Modules (1 Credit Each)		
1	Fundamentals of Collision Repair	FCR01	ACR2a
2	Frontal Impact Analysis	FCR02	ACR1c
3	Mechanical and Suspension Analysis	FCR03	ACR3c
4	Restraints, Interior, Glass, Side & Rear Impact Analysis	FCR04	ACR 4d

	Chief Automotive Systems, Inc. (1-3 Credits all)	CMT	
5	Damage Analysis Fundamentals	DAF	ACR2a
6	Collision Theory	CT	ACR1c
7	Measuring Equipment	ME	ACR3c
8	Repair Equipment	RE	ACR1b

**(check with instructor on how to gain I-CAR Gold-
Class Credits for above Classes)**

	VeriFacts Quality Assurance Process	
9	Technician Monthly Verification Form	Handouts
10	20-Criteria Used to Evaluate Technician Skill	Handouts
11	Topic of the Month	Handouts
12	OEM Specifications on Unique Repairs	Handouts

Available at: www.i-car.com website – check Training, then Enhanced-Delivery
www.chiefautomotivesystems.com then click on Training
www.verifacts.com for items related to VeriFacts and CertiFacts

DELMAR VIDEO SERIES INDEX – (11 videos for AB 182)

- ACR #1**
- a) Collision Repair Safety
 - b) Body Shop Power Tools
 - c) Vehicle Construction
- ACR #2**
- a) Metal Straightening Fundamentals
 - b) Collision Repair Materials
 - c) Fiberglass and Plastic Repair
 - d) Frame and Unibody Repair
- ACR #3**
- a) Estimating Repair Costs
 - b) Replacing Structural Parts, Corrosion Protection
 - c) Measuring Vehicle Damage
 - d) Paint Preparation, Masking
- ACR #4**
- a) Refinishing Fundamentals
 - b) Color Matching
 - c) Paint Problems, Buffing, Detailing
 - d) **Doors, Glass, Interior Service**
- Auto Refinish #1**
- a) **Environmental Safety, Personal Safety**
 - b) Planning and Preparation, Pre-Paint Vehicle Cleaning
 - d) Sanding, Priming
 - e) Application of Protective Coatings, Blocking
- Auto Refinish #2**
- a) Masking I, Masking II
 - b) Color Identification, Mixing and Reducing
 - c) Pre-Paint Cleaning, Application of Primers + Sealers
 - d) Gun Inspection and Set-Up, Spray-Test
- Auto Refinish #3**
- a) **Application of Single Stage Paint, Basecoat/ Clear-coat**
 - b) Spray Gun Cleaning, Painting Plastics
 - c) Buffing and cleaning for Delivery
 - d) **Identification of Imperfections**
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User Access to Delmar Digital Videos:

1. Must have Windows User Account Activated for Campus Network access
2. Double-click on "Training Mastery" Icon to open Delmar Programs
3. Enter Employee Number – Use your unique Cerritos College Windows User ID. Student Example: Name is Jose Gonzalez, enter username given by campus computer system "gonza899". Faculty Example: enter "rasperen".
4. Each time to access these videos, use the same user ID, it will ask you to verify your name, if correct click on "accept" – your quiz scores will follow you whenever you log in.
5. Select the Desired Section and Presentation. You must finish each section to receive credit. Stopping in the middle will require retaking the entire topic.
6. You may take a Pre-Test to check your knowledge prior to viewing each video, or you may view the video first, then test afterwards. The system will record both scores under your ID. The best scores of each re-test remain.

ESTIMATE CHECKLIST – COVER SHEET

CREDIT/ NO CREDIT

(Instructor will issue credit/ no credit status)

Estimate # _____

Profile ID: _____

NAME: _____ **DATE:** ____/____/____

Estimate Reviewed By (print name): _____ **Initials:** _____

Estimate System: *Mitchell Ultramate:* ____ *ADP Shoplink:* ____ *CCC/Pathways:* ____

1. Identification Information: (check **ONLY** areas needing improvement)

- Customer Information** (Student Name and Information)
- Insurance Information** (When assigned, including Company & deductible)
- Vehicle Information** (year, make, model, VIN, Color, mileage, Lic. Mfg Date)

2. Sequence and appropriateness of repair information:

- Front to Rear / Rear to Front, Outside to Inside Sequence** (etc.)
- Miscellaneous Add-On's** (underlined = mandatory, *italics* = optional)
 - Tint Color
 - Cover Car to Prevent Overspray
 - Colorsand and Buff
 - Hazardous Waste Disposal
 - Clear Coat
 - Flex Additive*
 - Restore Corrosion Protection*
 - Sound Deadening Pads*
 - Feather, Block & Prime*
 - Blend Adjacent Panel*
- Structural Analysis and Repair Procedures**
 - Appropriate Setup procedures identified
 - Appropriate Repair Procedures (Full-Frame or Unitized)
 - All damage is identified and listed

3. Summary of Total Costs:

- Appropriate Repair and Refinishing Labor and Sublet Procedures**
- Appropriate Rates and Profiles Used**
- Conditional Information Noted** (Explanation Notes)
- Logic and Completeness** (all damage listed)

ESTIMATE LOG

#	Yr/ Make /Model (or Workbook)	Date Written	Dollar Amount
1		/ /2006	\$
2		/ /2006	\$
3		/ /2006	\$
4		/ /2006	\$
5		/ /2006	\$
6		/ /2006	\$
7		/ /2006	\$
8		/ /2006	\$
9		/ /2006	\$
10		/ /2006	\$
11		/ /2006	\$
12		/ /2006	\$
13		/ /2006	\$
14		/ /2006	\$
15		/ /2006	\$
16		/ /2006	\$
17		/ /2006	\$
18		/ /2006	\$

CERRITOS COLLEGE COMPUTER NETWORK USER'S

CONDUCT

By acceptance and use of your user ID, you agree that you will NOT use the Network to:

- (a) upload, post, email, transmit or otherwise make available any Content (as defined below) that is unlawful, harmful, threatening, abusive, harassing, tortious, defamatory, vulgar, obscene, libelous, invasive of another's privacy, hateful, or racially, ethnically or otherwise objectionable;
- (b) harm minors in any way;
- (c) impersonate any person or entity, including but not limited to an employee, administrator or staff member of Cerritos College, forum leader, guide or host, or falsely state or otherwise misrepresent your affiliation with a person or entity;
- (d) forge headers or otherwise manipulate identifiers in order to disguise the origin of any Content transmitted through the Network;
- (e) upload, post, email, transmit or otherwise make available any Content that you do not have a right to make available under any law or under contractual or fiduciary relationships (such as inside information, proprietary and confidential information learned or disclosed as part of employment relationships or under nondisclosure agreements);
- (f) upload, post, email, transmit or otherwise make available any Content that infringes any patent, trademark, trade secret, copyright or other proprietary rights ("Rights") of any party;
- (g) upload, post, email, transmit or otherwise make available any unsolicited or unauthorized advertising, promotional materials, "junk mail," "spam," "chain letters," "pyramid schemes," or any other form of solicitation, except in those areas (such as shopping rooms) that are designated for such purpose;
- (h) upload, post, email, transmit or otherwise make available any material that contains software viruses or any other computer code, files or programs designed to interrupt, destroy or limit the functionality of any computer software or hardware or telecommunications equipment;
- (i) disrupt the normal flow of dialogue, cause a screen to "scroll" faster than other users of the Network are able to type, or otherwise act in a manner that negatively affects other users' ability to engage in real time exchanges;
- (j) interfere with or disrupt the Network or servers or networks connected to the Network, or disobey any requirements, procedures, policies or regulations of networks connected to the Network;
- (k) intentionally or unintentionally violate any applicable local, state, national or international law, including but not limited to regulations promulgated by the U.S. Securities and Exchange Commission, any rules of any national or other securities exchange, including, without limitation, the New York Stock Exchange, the American Stock Exchange or the NASDAQ, and any regulations having the force of law;
- (l) "stalk" or otherwise harass another; or
- (m) collect or store personal data about other users.

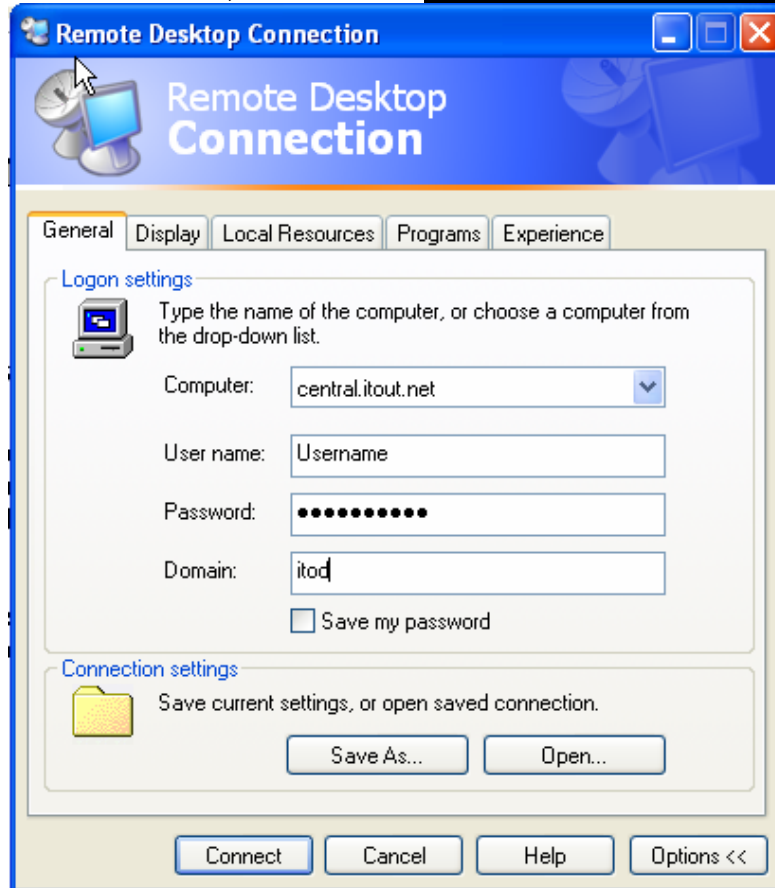
Attempts to Break Security. You understand and agree that any attempt to break security or to access an account that does not belong to you will be considered a material breach of these TOS, and such breach may result in suspension or termination of the Network and possibly referral to law enforcement authorities. Unauthorized access to the Network, restricted portions of the Network or the telecommunications or computer facilities used to deliver the Network is a breach of these TOS whether or not such activities are a violation of law. Further, you are required to take adequate security measures to prohibit others from unauthorized access or use of the Network, and you must take prompt remedial measures upon notice of breaches or potential breaches of security.

Acceptable Use Policy. Violations of Cerritos College's Acceptable Use Policy ("AUP") may also be considered a material breach of these TOS and may also result in suspension or termination of your access to the Network. Cerritos College's AUP may be reviewed at <http://support.cerritos.edu/legal/aup>.

INSTRUCTIONS FOR REMOTE ONLINE ACCESS TO ITOUTSOURCE SERVER

Remote Online Access Using Microsoft Explorer 6.0 or Later Browser

1. Click on “Start” at lower left of your screen, click on Programs, then Accessories, then Communications, then click on “**Remote Desktop Connection**” the following appears:



- 2.
3. Type the following in the “Computer” line: “central.itout.net” , then type your username as given you by ITOutsource or the instructor, and enter your password as given to you. Type “itod” as the Domain name. Click “Connect at the lower left to login.
6. Once the desktop of the remote server has loaded, Double-Click on the **software** Icon you have registered for to access the software log on screen (example: Pathways, Ultramate, CompleteShop etc.)
7. Once you have arrived at the software Login, you can enter your username and password, issued to your from ITOutsource –**You Must Use the Username and Password issued to you**, if you have more letters than are allowed on the screen, enter the maximum allowed for your username.
8. **CAUTION: Do Not Close** application programs or the Central Server Window by using the “X” button at the top right of each screen – this can corrupt the program for yourself and others. **ALWAYS** close each program before ending each session, and close Windows by going to the “File” (Top left menu bar) and clicking on “Close” and “Exit”. Or... Use the “Click Here to Close Programs” Icon on desktop of server.
9. To Log-Off of the ITOutsource server, locate the ICON, “**Click Here to Log Off**” and click it to close.
10. If you experience any difficulty not discussed above, email the [instructor](#) and explain your difficulty. Some of computers may request that you download “free” software in order to access the Central Server, you may do as prompted, then resume.

Bureau of Automotive Repair (BAR) Compliance Issues

1. Maintain paperwork ahead of production
2. Notes: record every critical approval and communication and print customer notes automatically on final invoice with: date, time, customer name, phone #, additional cost and work approved on Repair Order and the Final Invoice (as required by BAR)
3. Implement a tear-down/ blueprint of each vehicle repair
4. Receive and document approvals for all work prior to starting it on RO
5. Provide a Final Invoice even for no-charge warranty work.
6. Final bill/ Invoice includes teardown and actual repair estimate in detail.
7. Use approved Part Designators: New, Used, Rebuilt, Reconditioned, OEM crash parts, Non-OEM crash parts, Used Parts.
8. Authorizations for additional work date and time stamped with all customer approval/ communication notes must be on final Invoice – detailed (see #2)
9. Print only the Labor dollar amount (not hours of repair) on final invoice (or each hour shown must have been spent in actual work on that line item)
10. Teardown Estimate reassembly time limit if recommended work is not authorized: "I understand that my vehicle will be reassembled within ___ days of the date shown above if I choose not to authorize the services recommended". (Must be used when doing "Teardown Estimate").
11. Sample disclaimer for Teardown authorization "Note: Disassembly will prevent reassembly of vehicle to condition as received". Use when applicable.
12. Include "Unless checked here ___ (initial) customer does not want the damaged parts replaced by this work authorization".
13. Acknowledgment of Notice and Consent: " I acknowledge notice and verbal approval of an increase in the original estimated price. _____ (signature or initials)". Use whenever there is a price/procedure change.
14. Track alternative authorizations by phone/ fax/ email on RO/Final Invoice.

REASONS FOR HAVING BAR REGISTRATION SUSPENDED OR REVOKED:

By law, a dealer's registration may be revoked for any of the following acts or omissions:

1. Making untrue or misleading statements.
2. Letting a customer sign a work order that does not state the repairs requested or the odometer reading.
3. Failing to give a customer a copy of a signed document.
4. Fraud
5. Gross negligence.
6. Failure to comply with auto repair laws or regulations.
7. Willful departure from, or disregard of accepted trade standards for good workmanship and repair
8. Making false promises to get a customer to authorize service.
9. Having repairs done by someone else without the knowledge or consent of the customer (unless the customer cannot reasonably be notified).
10. Conviction of a violation of Penal Code section 551.
11. Conviction of any crime substantially related to the qualifications of an automotive repair dealer.

(adapted from the **BAR Write it Right Brochure**)

Vehicle Systems Knowledge and Component Identification (40 each)

*Vehicle Systems Sections 1 & 2, and Component
Identification Units 1 & 2 & 3 are covered in AB 181 Class
Non-Structural Damage Estimating (Part 1 of 2)*

UNIT 4: Frame and Unibody Construction Components (ch 2, 3 & 8) (7)

- Front Frame Rails
- Cross Members
- Rear Frame Rails
- Shock Towers
- Torque Box
- Core Supports
- Cowl Section

UNIT 5: Mechanical and Suspension Components (15)

- Engine
- Transmission/ Transaxle
- Suspension Cross Members
- Exhaust System
- McPherson Struts
- Lower Control Arm
- Rack and Pinion Steering
- Steering Box
- Tie Rod Ends
- Sway Bar
- Torsion Bar
- Suspension Systems
- Steering Systems
- Power train Systems
- Brake Systems

UNIT 6: Electrical, Electronic & Safety Systems/Components(18)

- Battery & Charging System
 - Alternator
 - Regulator
- Coil
- Solenoid
- Relays
- Fuse Block & Wire Harnesses
- Fusible Link
- Computer Modules
- Wire Harness
- Fiber Optics
- Electronic Control System
 - OnBoard Diagnostics Port
 - OBDII
 - CAN Protocol (Req: 2008)
- Safety Systems**
 - Supplemental Restraints
 - Air Bag Systems
 - Pre-Tensioner Systems
 - ABS Brakes
 - Collision Avoidance Systems
 - Anti-Roll Systems

RIDE-ALONG ASSIGNMENT

VeriFacts Coaching Visit

Name: _____

Date: ___/___/___

Coach: _____

Shop Name: _____

Manager Name: _____

Class: AB 182 Structural Damage Estimating

CREDIT / NO CREDIT

(determined by instructor)

(use this page as a cover sheet)

RIDE-ALONG ASSIGNMENT

NAME: _____ **DATE:** ___/___/___ **TIME:** __:__

DESTINATION:

PURPOSE OF THE FIELD TRIP:

Observe and tour a collision repair facility, observe typical daily operations, observe coaching aspects of VeriFacts visit, identify critical areas of repair, determine how a damage estimator or appraiser could improve repair process for technicians. Develop additional experience observing heavily damaged vehicles in process of repair.

QUESTIONS TO ASK DURING RIDE-ALONG (make the list prior to ride-along):

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

Use the “M.A.D.E.” Format For Written Communication:

Summarize your report from this activity in a one (1) page essay, double-spaced, minimum of 3-5 paragraphs in length utilizing the “**M.A.D.E.**” format (see below).

Message: a brief summary statement of your main **message** .

Action: describe the **action** you would take as a result of this experience.

Detail: give any **detail** related to the message and action described above. (the who, what, when, where, why, how, and how much of the message)

Evidence: attach any supporting **evidence** to your document. (brochure, bus. card)

P-PAGE LOGIC CALCULATION – SAMPLE EXERCISE

Using the following formulas, calculate the appropriate hours for the following panels and procedures; this is a clearcoat paint procedure, remember the Lt Front Door & Lt Fender are being blended - calculate blend time for the Lt Front Door & Lt Fender only. Calculate color-sand and buff for all painted and blended panels. Double check your hours and show totals for all.

Assume that the following chart represents an actual car being painted.

P-PAGE FORMULAS: (Use sample table below to perform P-Page Calculations)

Overlap: deduct .4 per panel for major adjacent panels.
deduct .2 per panel for major non-adjacent panels.

Clear Coat: multiply base panel paint hours by **40%** after deducting overlap for the 1st panel, multiply base hours by **20%** for each panel thereafter.

Blend: multiply base panel paint hours by **50%** for blend time *without overlap incl. clear*

Colorsand & Buff: multiply base panel paint hours by **30%** *before deducting overlap*

Two Tone: multiply base panel paint hours by **50%** *after overlap* 1st panel, & base panel hours by **30%** *after overlap* for each additional panel.

Multi Coat: multiply base paint hours by **70%** after overlap for 1st panel, then multiply base paint hours by **40%** after overlap for all additional panels

Multi Coat Blend: multiply base paint hours by **70%** for all blended panels with no overlap

Panel Description	Book Time	O/lap	Add to Total at Bottom and Right						TOTAL
			Adjusted Hours	Clear Coat	Blend	C/sand & Buff	Two Tone	Multi Coat	
Lt ¼ Panel*	3.5	- 0	3.5	N/A	N/A	1.0	1.8	2.5	8.8
Lt Rr. Door	2.4	- .4	2.0	N/A	N/A	.7	.6	.8	4.1
Lt Frt. Door	2.6	- 0	N/A	N/A	1.8	.8	.8	N/A	3.4
Lt Fender	2.0	- 0	N/A	N/A	1.4	.6	.6	N/A	2.6
Rt Fender	2.0	- .2	1.8	N/A	N/A	.6	.5	.7	3.6
Total			7.3	N/A	3.2	3.7	4.3	4.0	22.5

(Italics indicate Student Entry of Data)

TENTATIVE SCHEDULE OF CLASS MEETINGS (At Instructors Discretion)

Wk	Date	Topics	Assignment	Activity
1	8/14	<u>Course Orientation - Overview and Objectives:</u> Take pretest and review pretest knowledge. Student PC access, ITOutsource Remote Access. New Course Focus.	Pre-Test	Pre-Test
2	8/21	<u>Chief Damage Analysis Fundamentals, Collision Theory, Measuring Equipment, Repair Equipment.</u> – Knowledge Pre-Test	<u>Chief Modules Estimate #1</u>	Chief Pre-Test <i>Group Estimate</i>
3	8/28	Workbook Exercises #1+ 2 Computer Estimating	<i>Estimate #2+3</i>	Pathways Workbook
4	9/4	<i>HOLIDAY – Labor Day: NO CLASSES ON CAMPUS</i>	<u>I-CAR Module Estimate #4</u>	Online Estimate
5	9/11	<u>I-CAR ENHANCED-DELIVERY-</u> Module 1	<i>I-CAR FCR01</i>	<i>I-CAR Test</i>
6	9/18	<u>TEAR-DOWN AND BLUEPRINT PROCESS</u>	<u>BluePrint Exercise Estimate #5</u>	Blueprint Test
7	9/25	<u>I-CAR ENHANCED DELIVERY</u> – Module 2	<u>I-CAR DAM01 Estimate #6</u>	I-CAR Test
8	10/2	<u>P-Page Logic Exercises – Grid. Refinish Operations.</u>	P-Page Grid Exercise Estimate #8	Take-Home P-Page Grid
9	10/9	<u>MID-TERM EXAMINATION – CONTENT TO-DATE</u>	EXAMINATION	MID-TERM
10	10/16	<u>Mid-Term Review. OEM Required Repair Procedures. VeriFacts Process Model.</u>	Estimate #9	VeriFacts Evaluation Form
11	10/23	<u>New Materials, Designs, Processes in Automotive Design. Hydro-forming, Aluminum, Boron Steel, Rivet-bonding etc.</u>	Estimate #10	Lab Exercise
12	10/30	<u>I-CAR ENHANCED DELIVERY</u> – Module 3	<u>I-CAR DAM02 Estimate #11</u>	I-CAR Test
13	11/6	<u>Structural designs, variations, identification + significance</u>	Estimate #12	Lab Exercise
14	11/13	<u>Advanced Automotive Systems; Mechanical, suspension, steering, collision avoidance, supplemental restraints.</u>	Estimate #13	Lab Exercise
15	11/20	<u>I-CAR ENHANCED DELIVERY</u> – Module 4	<u>I-CAR DAM03 Estimate #14</u>	I-CAR Test
16	11/27	<u>Review of VeriFacts Ride-Along Activities</u>	Estimate #13	Ride-Along Report Due
17	12/4	<u>Review for Final Examination</u>	Estimate #15	Make-Ups
18	12/11	<u>FINAL EXAMINATION on COURSE CONTENT</u>	<u>CERTIFICATES</u> AB 181 + AB 182	FINAL EXAM