Course Outline

COURSE: JLE 159  DIVISION: 50  ALSO LISTED AS:

TERM EFFECTIVE: Summer 2014  CURRICULUM APPROVAL DATE: 04/14/2014

SHORT TITLE: TRAFFIC ADVANCED

LONG TITLE: Traffic Collision Investigation - Advanced

<table>
<thead>
<tr>
<th>Units</th>
<th>Number of Weeks</th>
<th>Type</th>
<th>Contact Hours/Week</th>
<th>Total Contact Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>18</td>
<td>Lecture</td>
<td>1.33</td>
<td>23.94</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lab</td>
<td>3.1</td>
<td>55.8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Other</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>4.43</td>
<td>79.74</td>
</tr>
</tbody>
</table>

COURSE DESCRIPTION:

This course builds on the concepts learned in the basic and intermediate courses. The course examines in detail the human environmental and vehicle factors of a traffic collision. The concepts taught include: a review of algebra and physics, interviewing techniques, roadway and environmental factors, advanced methods for processing collision scenes and creating scale diagrams, vehicle damage assessments, lamp analysis, occupant restraints, basic vehicle dynamics and occupant kinematics. Determination of speed based on projectile motion, and methods of conducting time-distance studies. This is a pass/no pass course. PREREQUISITE: Basic POST Certificate or Equivalent. ADVISORY: Traffic Investigation and Traffic Collision Investigation - Intermediate.

PREREQUISITES:

COREQUISITES:

CREDIT STATUS: D - Credit - Degree Applicable

GRADING MODES

P - Pass/No Pass

REPEATABILITY: N - Course may not be repeated

SCHEDULE TYPES:

02 - Lecture and/or discussion
03 - Lecture/Laboratory
04 - Laboratory/Studio/Activity

STUDENT LEARNING OUTCOMES:

4/17/2014
1. Effectively evaluate the three factors of a collision event dictated by each collision event. The pre-, at-, and post-collision phases.

   Measure: written project
   PLO: 2, 3
   ILO: 2, 3, 7

2. Identify and communicate legal issues and search and seizure techniques and requirements.

   Measure: written project, performance
   PLO: 2, 3
   ILO: 1, 2, 3, 7

3. Access and list information gained during a damage inspection and analyze different collision types and write inspection report.

   Measure: written project
   PLO: 2, 3
   ILO: 2, 3, 6, 7

4. Identify different factors affecting the collision event such as roadway surface, mechanical efficiency, vehicle damage and tire friction marks.

   Measure: performance
   PLO: 2, 3
   ILO: 2, 3, 6, 7

5. Develop a complete accurate written inspection report based on the analysis of the collision data.

   Measure: written project, performance
   PLO: 2, 3
   ILO: 2, 3, 6, 7

6. Measure the roadway after an accident and determine through analysis of the data to make a report for court testimony.

   Measure: project, performance
   PLO: 2, 3
   ILO: 1, 2, 3, 7

CONTENT, STUDENT PERFORMANCE OBJECTIVES, OUT-OF-CLASS ASSIGNMENTS

Curriculum Approval Date: 04/14/2014

16 Hours

Content:

I. Processing, Measuring and Scale Diagramming
   A. Safety Aspects
      a. three phases of a collision event
   B. Measuring equipment and methodology
      a. review of measuring methodologies
      b. limitations of survey equipment and internet images
   C. Math and Physics Review
   D. Using a Station Line to document the scene (review)
   E. Advanced Station Line measuring and diagramming techniques
      a. making measurements from station line
b. properly documenting station lines notation
F. Triangulation
G. Collecting / marking the physical evidence
H. Drawing and drafting equipment

Student Performance Objectives (SPO): Identify the three phases of a collision event

Out-of-Class Assignments: Reading assignment
8 Hours

Content:

II. Legal Issues and Investigative Techniques
A. Miranda Issues
   a. custody and interrogation
B. Invoking right to silence and right to an attorney
C. Search and seizure issues
   a. exceptions of the warrant requirement
   b. consent searches
D. Beheler Admonition
   a. not under arrest

Student Performance Objectives (SPO): Identify legal issues and search and seizure requirements
Out-of-Class Assignments: Reading assignments
16 Hours

Content:

III. Vehicle Assessment / Inspection
A. Assessment of a mechanical deficiency
   a. solicit information about the mechanical worthiness
B. Inspection of impounded vehicle
   a. use of two dollies/flatbed trucks
C. Documentation of all major components/systems
D. Damage assessment
   a. list of information gained during damage inspection

Student Performance Objectives (SPO): Access the scene and apply information into inspection report
Out-of-Class Assignments: Reading assignment
16 Hours

Content:

IV. Collision Assessment
A. Drag factors
   a. Dynamic vs. static
B. Factors affecting the coefficient of friction
   a. roadway surface
   b. tires
   c. weather
C. Braking efficiency
   a. mechanical condition
   b. overloaded vehicles
D. Vehicle Dynamics
   a. study of motion
   b. determining motion during contact
   c. vehicle damage
E. Speed from tire friction marks
a. application of critical speed scuff mark equation
F. Freefall, vaults and rollovers
   a. physics of freefall
   b. effect of launch angle on distance of travel
G. Trajectories
H. Rollover analysis
   a. rollover drag factor
I. Time and position analysis
   a. equations of motion with constant acceleration
   b. time and position analysis
Student Performance Objectives (SPO): Identify factors affecting the collision event
Out-of-Class Assignments: Example problems
16 Hours
Content:
V. Human Factors & Interview and Interrogation
   A. Driver perception and reaction time
      a. voluntary or involuntary actions
   B. Driving strategy
   C. Occupant kinematics
      a. description of the collision systems
   D. Restraint systems
      a. physical evidence related to the use and non-use of restraint systems
   E. Case preparation and courtroom testimony
      a. report and documentation formats
      b. preparing a resume and preparing your case for trial
      c. Qualifying as an expert
Student Performance Objectives (SPO): Develop a written report based on analysis of collision data
Out-of-Class Assignments: Reading assignment
8 Hours
Content:
IV. Field / Practical Exercises (scenarios)
   A. Examination and measurements of roadway
      a. engineering diagrams
      b. tire mark demonstration and analysis
      c. conducting test skids
d. documentation and diagramming
Student Performance Objectives (SPO): student will be able to measure the roadway after an accident and determine though analysis of data to make report for court testimony.
Out-of-Class Assignments: draw scale diagrams, photograph a damaged vehicle, make a tire mark demonstration to present.
2 Hours
Final

METHODS OF INSTRUCTION:
Skills Demonstration, Lecture, Learning Activities

METHODS OF EVALUATION:
CATEGORY 1 - The types of writing assignments required:
Percent range of total grade: 15 % to 20 
Written Homework  
Reading Reports

CATEGORY 2 - The problem-solving assignments required:
Percent range of total grade: 20 % to 30 
Homework Problems  
Field Work

Quizzes

CATEGORY 3 - The types of skill demonstrations required:
Percent range of total grade: 25 % to 40 
Class Performance/s  
Field Work  
Performance Exams

CATEGORY 4 - The types of objective examinations used in the course:
Percent range of total grade: 10 % to 25 
Multiple Choice  
True/False

Other: Skills Demonstration

REPRESENTATIVE TEXTBOOKS:
n/a

ARTICULATION and CERTIFICATE INFORMATION
    Associate Degree:
    CSU GE:
    IGETC:
    CSU TRANSFER:
        Transferable CSU, effective 201450
    UC TRANSFER:
        Not Transferable

SUPPLEMENTAL DATA:
    Basic Skills: N  
    Classification: Y  
    Noncredit Category: Y  
    Cooperative Education:
    Program Status: 2 Stand-alone
    Special Class Status: N  
    CAN:
    CAN Sequence: