

## **Synchro and SimTraffic V10 (TE-13)**

### **Course Outline – Day 1**

8:00am-8:15am	<b>Attendance Verification</b>
8:15am-8:30am	Introduction of Instructor and Students / Ice Breaker
8:30am-9:00am	<b>Background Information Presentation</b> <ul style="list-style-type: none"><li>• What is Synchro 10</li><li>• What is SimTraffic 10</li><li>• What will we learn in the next two days</li></ul>
9:00am-9:30am	<b>Lab Session - Importing a Background (<u>Bing</u> or JPEG or DXF)</b>
9:30am-10:00am	<b>Synchro Network Building Presentation</b>
10:00am-10:15am	<b>BREAK</b>
10:15am-11:15am	<b>Lab Session - Drawing a Network</b> <ul style="list-style-type: none"><li>• Straight Links</li><li>• Intersections</li><li>• Curved Links</li><li>• Grade Separated Links</li></ul>
11:15am-11:45am	<b>Quiz #1 – 10 Multiple Choice Questions</b>
11:45am-12:15am	<b>Synchro Intersection Geometrics and Control Presentation</b>
12:15am-1:15pm	<b>LUNCH BREAK</b>
1:15pm-2:15pm	<b>Lab Session - Intersection Geometrics and Control</b> <ul style="list-style-type: none"><li>• Through Lanes</li><li>• Pocket Lengths</li><li>• Channelized Right-turn lanes</li><li>• U-turns</li><li>• Lane Drops / Adds</li><li>• Unsignalized</li><li>• Signalized</li><li>• Roundabout</li></ul>
2:15pm-2:30pm	<b>Multi-Modal Traffic Volumes Presentation</b>
2:30pm-3:00pm	<b>Lab Session – Intersection Traffic Volumes</b> <ul style="list-style-type: none"><li>• Vehicles, Pedestrians, and Bicyclists</li><li>• Peak Hour Factor</li><li>• Heavy Vehicle Percentage</li></ul>
3:00pm-3:15pm	<b>BREAK</b>
3:15pm-3:45pm	<b>Signal Timings Presentation</b> <ul style="list-style-type: none"><li>• Background</li><li>• Types of Signal Control</li></ul>
3:45pm-4:15pm	<b>Quiz #2 – 10 Multiple Choice Questions</b>
4:15pm-4:45pm	<b>Wrap-up of Day One</b>
4:45pm-5:00pm	<b>Open Lab Session and Student Questions</b>

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### **Course Outline – Day 2**

8:00am-8:30am	<b>Review What We Learned on Day One Presentation</b>
8:30am-9:00am	<b>Signal Timings Presentation (Continued)</b>
9:00am-9:45am	<b>Lab Session – Signal Timings</b> <ul style="list-style-type: none"><li>• Controller Type</li><li>• Signal Phases</li><li>• Entering Signal Timing Data</li></ul>
9:45am-10:15	<b>Synchro TIA Presentation</b> <ul style="list-style-type: none"><li>• Manage Developments</li><li>• Trip Generation</li><li>• Origins / Driveways</li><li>• Trip Distribution and Assignment</li></ul>
10:15am-10:30am	<b>BREAK</b>
10:30am-11:00am	<b>Synchro Level of Service Analysis</b> <ul style="list-style-type: none"><li>• Signalized Percentile Delay and LOS</li><li>• Signalized Highway Capacity Manual (HCM) Delay and LOS</li><li>• Unsignalized Delay and Level of Service</li></ul>
11:00am-11:30am	<b>Quiz #3 – 10 Multiple Choice Questions</b>
11:30am-12:00am	<b>Optimizing Traffic Signals Presentation</b>
12:00am-1:00pm	<b>LUNCH BREAK</b>
1:00pm-1:30pm	<b>Lab Session – Optimizing Traffic Signals</b> <ul style="list-style-type: none"><li>• Single Intersection</li><li>• Review Results (Before and After)</li><li>• Group of Intersections (Single Corridor)</li><li>• Network Wide Signal Optimization</li><li>• Review Results (Before and After)</li></ul>
1:30pm-1:55pm	<b>Converting Synchro to SimTraffic Presentation</b> <ul style="list-style-type: none"><li>• Why use microsimulation?</li><li>• Setting up and running SimTraffic</li></ul>
1:55pm-2:25pm	<b>Lab Session – Converting Synchro to SimTraffic</b>
2:25pm-3:00pm	<b>Comparing Synchro versus SimTraffic Results Presentation</b> <ul style="list-style-type: none"><li>• Intersection Level of Service</li><li>• Arterial Performance Report</li><li>• Queuing Information</li></ul>
3:00pm-3:15pm	<b>BREAK</b>
3:15pm-3:45pm	<b>Quiz #4 – 10 Multiple Choice Questions</b>
3:45pm-4:15pm	<b>Wrap-up of Day Two</b>
4:15pm-5:00pm	<b>Open Lab Session and Student Questions</b>