DAY 1

AM

- **Introduction/Class Schedule/etc.**
- **Review of Course Outline**
- **Vision Guide Components and Configurations**
- **Vision Guide Configuration w/Robot System (How does it all fit together?)**
- **Vision Guide Overview (The Vision Guide Window)**
- **Sequences, Objects, Properties, Results**
- **Demo (Creating and running a Vision Object and Vision Sequence**
- **Blob Objects**
- **Starting Vision Guide & Usage Review**
- **Lab #1 (Tutorial in VG Manual Chapter 3)**
- **How Blob Analysis Works**
- **Sequence Properties**
- **Multiple Results Usage (Including ShowAllResults Result)**

PM

- **Lab #2 (Finding Good Parts/Bad Parts)**
- **Discussion of Lab #2**
- **Lighting & Optics**
- **Images**
- **Correlation Objects**
- **Lab #3 (Using Correlation Objects) (Phone Pad)**
- **Discussion of Lab #3**
- **Frame Objects**
- **Object Execution Order (Sequence Step List)**
- **Using Vision Guide with SPEL (VRUN, VGET, VSET)**
- **Statistics**
- **Lab #4 (Running VG Correlation Lab #3 Sequence from SPEL & using Frame Objects)**
- **Discussion of Lab #4**
- **Accept and Confusion Properties (More Details)**
- **Demo #2 (Accept/Confusion Properties)**

DAY 2

AM

- **Steps to a Vision Guide Solution**
- **Lighting & Optics Video**
- **Coordinate Systems Overview (Robot, Camera, Screen)**
- **Calibration (Overview)**
- **Review of TOOL/TLSET commands**
- **Mobile Camera Calibration**
- **Fixed Upward to Robot Calibration**
- **Lab #5 (Mobile Camera Calibration, Fixed Upward Camera Calibration) Calculate tool offset with upward facing camera**
- **Polar Objects**
- **Attaching Polar Objects to other Objects (CenterPoint Property)**
- **Lab #6 (Using Polar Objects) Gasket demo**
- **Image Operation Object**

PM

- **Point and Line Objects**
- **Edge Objects**
- **Lab #7 (Using Edge, Point and Line Objects calculate center of phone pad)**
- **Geometric Pattern Matching Object**
- **Lab #8 - Vision Guided pick and place using two cameras (placing with precision)**
- **Certificates – 3:00PM**