

## AutoLisp Essentials Training

### Introduction:

**AutoCAD AutoLisp Essentials Training** covers AutoLISP data types and program execution. This training is aimed at the AutoCAD users who would like to start learning AutoLisp. The series of lessons shows you how to customize AutoCAD, turning the general-purpose design package into an even more powerful tool for your needs. Designed for experienced users of AutoCAD, the course does not require prior knowledge of programming.

You only need to know a little about creating menu macro commands and to have used a text editor, such as the Notepad. At the end of the course, you will be able to write intelligent programs that will make AutoCAD conform to your own unique requirements.

Course Details	
AutoCAD AutoLisp Essentials Training	
<b>Objective</b>	<ul style="list-style-type: none"> <li>To understand and learn AutoLISP and how it is being used in</li> <li>To understanding of AutoCAD objects and how they can be manipulated by AutoLISP</li> <li>As a fundamental to become an AutoLISP programmer</li> </ul>
<b>Prerequisite</b>	<ul style="list-style-type: none"> <li>Working knowledge of Microsoft® Windows®.</li> <li>Basic knowledge AutoCAD 2D &amp; CAD drawing</li> </ul>
<b>Software</b>	AutoCAD 2020- (specialized toolsets)
<b>Duration</b>	2 days (14 hours)
<b>Time</b>	09:30 am to 05:30 pm
<b>Venue</b>	ACAD SYSTEMS ATC – Authorised Autodesk Training Centre (KL or Penang)
<b>Support</b>	Trainees are entitled to get 30 days online (e-mail & phone) support from AcadSystems Instructor to help with any post-training issues.

## Training Curriculum

### DAY 1

<p><b><u>L 1 – An introduction to AutoLISP</u></b></p> <ul style="list-style-type: none"> <li>❖ What is AutoLISP?</li> <li>❖ AutoLISP Atoms</li> <li>❖ AutoLISP Lists</li> <li>❖ AutoLISP Quoted Lists</li> </ul>	<p><b><u>L 2 – AutoLISP Data Types</u></b></p> <ul style="list-style-type: none"> <li>❖ Determining Data Types</li> <li>❖ Symbols</li> <li>❖ Strings</li> <li>❖ Real Numbers</li> <li>❖ Integers</li> <li>❖ Entity names</li> </ul>
<p><b><u>L 3 – Mathematical expressions in AutoLISP</u></b></p> <ul style="list-style-type: none"> <li>❖ Mathematical expression format</li> <li>❖ Type of conversions</li> <li>❖ String considerations</li> </ul>	<p><b><u>L 4 – Sample AutoLISP commands</u></b></p> <ul style="list-style-type: none"> <li>❖ Simple AutoLISP: Adding Two Numbers</li> <li>❖ Practical Example: AutoLISP in Commands</li> <li>❖ Remembering the Result: SetQ</li> </ul>
<p><b><u>L 5 – Loading AutoLISP</u></b></p> <ul style="list-style-type: none"> <li>❖ Execution by typing in an AutoLISP expression</li> <li>❖ Execution by reading an expression from an ASCII file</li> <li>❖ AutoLISP execution from a file containing defined functions</li> <li>❖ AutoLISP execution with 'C:'</li> </ul>	<p><b><u>L 6 – Writing New Functions</u></b></p> <ul style="list-style-type: none"> <li>❖ Functions as first in Forms</li> <li>❖ How to use DEFUN</li> <li>❖ Values Returned from DEFUN</li> <li>❖ Defining new Commands</li> </ul>

## DAY 2:

<p><b><u>L 7 – CAR, CDR, CADR</u></b></p> <ul style="list-style-type: none"> <li>❖ Working with Points as Lists of Real numbers</li> <li>❖ CAR, CDR, CADR</li> <li>❖ Creating New Point Lists</li> </ul>	<p><b><u>L 8 – GETxxx Functions</u></b></p> <ul style="list-style-type: none"> <li>❖ Understanding GetXXX Functions</li> <li>❖ Printing Functions</li> </ul>
<p><b><u>L 9 – Global and Local Variables</u></b></p> <ul style="list-style-type: none"> <li>❖ Working with Global and Local Variables</li> <li>❖ When to use Local Variables</li> <li>❖ When to use Global Variables</li> </ul>	<p><b><u>L 10 – AutoLISP Functions for Math and Geometry</u></b></p> <ul style="list-style-type: none"> <li>❖ Math functions</li> <li>❖ Converting angles in degrees to radians</li> <li>❖ Geometry with AutoLISP</li> <li>❖ Some 'GET...' functions</li> </ul>
<p><b><u>L 11 – Tips for AutoLISP</u></b></p> <ul style="list-style-type: none"> <li>❖ Use an ASCII Text Editor</li> <li>❖ Loading LSP Code into AutoCAD</li> <li>❖ Read-Write-Append File</li> <li>❖ Keep Variables to Six Characters</li> </ul>	<p>Revision and hands on practice with the tools and commands</p> <ul style="list-style-type: none"> <li>❖ Practices</li> <li>❖ Q &amp; A Session</li> </ul>