

CAREER CERTIFICATE IN INTERIOR DESIGN

COURSE DESCRIPTION

In the modern industrial world, computer-aided-design is indispensable to produce quality drawing and to increase the productivity of individual as well as beneficial to a company. The course is suitable for any candidates with or without computer-aided-design experience.

ENTRY REQUIREMENT

- Working knowledge of Microsoft® Windows® 7, Microsoft® Windows® Vista, Microsoft® Windows® XP, or Microsoft® Windows® 2000
- Interests / Experiences in industrial design or drafting is recommended

COURSE DURATION

- 9 months (34 Credits)

MODULES

MODULE	HOURS	CREDITS
Design theory	32	4
Drawing communication	32	4
CAD 1	30	4
Sketch Up	30	4
Model Making	16	2
3DS Max & V-Ray	40	4
Photoshop	20	3
Final project (Presentation & Portfolio)	40	4
SKM Level 3 - PPT	48	5

CERTIFICATIONS

Participants will receive the following:

1. Upon **passing examination and completion of course** with full attendance:
 - Career Certificate in Interior Design
 - Malaysian Skill Certificate In Architectural Draughting (Level 3)

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CAREER PATH

- 2D Visualizer, Space Planner, Draught person, & Layout Designer, 3D modeling designer, Architectural Assistant
- 3D Visualizer, 3D Artist, Interior Designer, 3D Graphic Artist, 3D Designer, Architectural Visual Producer

DESIGN THEORY

Credits : 4

Contact Hours : 32

Instructor : CIAST Approved Instructor

Material : Handouts & Notes

DESCRIPTION:

- Design Theory is an introduction to design principles, elements, shapes, forms and spaces.

OBJECTIVES:

- Comprehend and apply basic design elements, design principles, shape, form and geometry that make up architectural design.
- Study anthropometrics – the study of human body as basic design measure of scale and proportion in understanding space in architecture.

LEARNING OUTCOME:

- Acquire and apply knowledge of basic design elements, design principles, shape,

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form and geometry.

- Relate anthropometry in identifying scale and proportion in design spaces.
- Express ideas imaginatively and creatively to implement in design.

COURSE CONTENT:

- Elements of Design
 - ❖ Point
 - ❖ Line
 - ❖ Form
 - ❖ 2-Dimensional Form
 - ❖ 2-Dimensional Illusion
 - ❖ 3-Dimensional Form
 - ❖ Movement
 - ❖ Color
 - ❖ Color Psychology
 - ❖ Pattern
 - ❖ Texture
- Principles of Design
 - ❖ Balance
 - ❖ Proportion
 - ❖ Rhythm
 - ❖ Emphasis
 - ❖ Unity
- Anthropometrics
 - ❖ Design for human
 - ❖ Design for the disables

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ASSIGNMENT I

Using sketches (of ideas) to design a 'habitat' for yourself by applying design elements, principles and anthropometrics.

Submission requirements:

1. To submit an A3 size drawing consists of plan, elevations and isometric view of the 'Habitat'.
2. To submit a model with scale of 1:10 of the habitat design.
3. To submit a design write-up expressing designs ideas in an A4 format.

DRAWING COMMUNICATIONS

Credits : 4

Contact Hours : 32

Instructor : CIAST Approved Instructor

Material : Handouts & Notes

DESCRIPTION:

- A good drawing speaks for itself. Drawing Communications is a subject to present ideas, concept and drawings in the right method.

OBJECTIVES:

- Facilitate effective visual communication skills.
- Impart the skills of 3D visualization and presentation to express design ideas effectively

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LEARNING OUTCOME:

- Draw visual sketches and signify elements of architecture to express design idea and solve design problem.

- Apply layout and quick render presentation boards using mix media

COURSE CONTENT:

- Architecture Techniques
 - ❖ Orthographic technique
 - ❖ Perspective technique

- Digital Techniques
 - ❖ Architectural Plan & Symbols
 - ❖ Building Elevations & Cross Sections

- Presentation Techniques
 - ❖ Presentation Boards Layout
 - ❖ Portfolio Compilations

ASSIGNMENT II

Draw complete set 2D architectural drawing use manual technique.

Submission requirements:

1. To submit all drawing below using A3 size tracing paper and drawing must use technical pen.
 - a) Site plan
 - b) Key plan
 - c) Location plan
 - d) Floor plan

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- e) Roof plan
- f) Elevation (4 view)
- g) Section (minimum 2)

2. To submit in A3 size format with complete binding.

ASSIGNMENT III

Create 3 views a conceptual your design in 3D using perspective technique.

Submission requirements:

1. To submit all design in A3 size format.
2. To submit a design ideas in an A4 format.

ASSIGNMENT IV

Create a Conceptual Presentation Board from the 2D drawings & 3D models of Assignment II to illustrate design ideas.

Submission requirements:

1. To submit a softcopy of presentation boards. Minimum 2 boards (Landscape or Portrait)
2. To submit a printed hard copy of the board in A3 size format.

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CAD I

Credits	: 4
Contact Hours	: 40
Instructor	: Autodesk Approved Instructor
Material	: Autodesk Official Training Guide
	: Handouts and notes

DESCRIPTION:

- CAD I is to train the candidates to use computer-aided-design software to deliver their design ideas via computerized drawing using Autodesk AutoCAD.

OBJECTIVES:

- To draw using AutoCAD in form of 2D

LEARNING OUTCOME:

- Perform architectural drawing with application of scale, line-weight in a proper drawing block.

COURSE CONTENT:

- Getting Started
 - ❖ Sign in to Autodesk 360 on the start Tab
 - ❖ Explore the AutoCAD 2016 for windows user Interface
 - ❖ Set Drawing Units
- Basic Drawing Skills
 - ❖ Navigate 2D Drawings
 - ❖ Draw Lines and Rectangles

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- ❖ Cancel, Erase, and Undo
- ❖ Use Coordinate Systems
- ❖ Draw Circles, Arcs, and Polygons
- ❖ Use Fillet and Chamfer

- Using Drawing Aids
 - ❖ Use Grid and Snap
 - ❖ Employ Ortho and Polar Tracking
 - ❖ Use Polar Snap
 - ❖ Select Running Object Snaps
 - ❖ Harness the From Snap
 - ❖ Apply Object Snap Tracking

- Editing Entities
 - ❖ Create Selection Sets
 - ❖ Use Move and Copy
 - ❖ Use Rotate and Scale
 - ❖ Use Trim and Extend
 - ❖ Use Offset and Mirror
 - ❖ Edit with Grips

- Shaping Curve
 - ❖ Draw and Edit Curved Polylines
 - ❖ Draw Ellipses
 - ❖ Shape Splines
 - ❖ Blend Between Objects with Splines

- Controlling Object Visibility & Appearance
 - ❖ Change Object Properties
 - ❖ Set the Current Layer
 - ❖ Alter the Layer Assignments of Objects
 - ❖ Control Layer Visibility
 - ❖ Apply Line type
 - ❖ Assign Properties by Object or by Layer
 - ❖ Manage Layer Properties

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- ❖ Isolate Objects

- Organizing Objects
 - ❖ Define Blocks
 - ❖ Insert Blocks
 - ❖ Edit Blocks
 - ❖ Redefine Blocks

 - ❖ Work with Groups

- Hatching & Gradient
 - ❖ Specify Hatch Areas
 - ❖ Associate Hatches with Boundaries
 - ❖ Hatch with Patterns
 - ❖ Hatch with Gradients

- Working with Xrefs
 - ❖ Work with Global Blocks
 - ❖ Access Content Globally
 - ❖ Store Content on Tool Palettes
 - ❖ Reference External Drawings and Images

- Creating and Editing Text
 - ❖ Style Text
 - ❖ Write Lines of Text
 - ❖ Write and Format Paragraphs Using *MTEXT*
 - ❖ Edit Text

- Dimensioning
 - ❖ Style Dimensions

 - ❖ Add Dimensions

 - ❖ Edit Dimensions

- Keeping in Control with Constraint
 - ❖ Work with Geometric Constraints

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- ❖ Apply Dimensional Constraints
- ❖ Constrain Objects Simultaneously with Geometry and Dimensions
- ❖ Make Parametric Changes to Constrained Objects

- Working with Layouts
 - ❖ Create Layouts
 - ❖ Adjust Floating Viewports
 - ❖ Override Layer Properties in Layout Viewports
 - ❖ Draw on Layouts

- Printing & Plotting
 - ❖ Configure Output Devices
 - ❖ Create Plot Style Tables
 - ❖ Use Plot Style Tables
 - ❖ Plot in Model Space
 - ❖ Plot Layouts in Paper Space
 - ❖ Export to an Electronic Format

- Storing, Presenting and extracting data

ASSIGNMENT V

Transform Assignment I into CAD drawing with proper drawing block. Submission requirements:

1. To submit several A3 size drawings consist of plan, elevations and isometric view.

2. To submit a rendered 3D model of the habitat in softcopy format and a hardcopy format in A4.

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SKETCHUP

Credits	: 4
Contact Hours	: 40
Instructor	: Autodesk Approved Instructor
Instructor Material	: Handouts & Notes

DESCRIPTION:

- SketchUp enables participants to draw using a familiar pencil and paper paradigm in a software context. The SketchUp Essential Training course provides students with an excellent choice for beginning to learn to use Sketch Up. This course is intended for students with little or no experience in 3 dimensional drawing or Sketch Up experience, but who want to start to create 3 dimensional models using Sketch Up.

OBJECTIVES:

- By the end of the course, participants should be able to:
 - ❖ Understand Sketchup Interface
 - ❖ Setting a metric/imperial drawing environment
 - ❖ Presenting of objects in architectural model, and work with elevation, section, and 3D views.
 - ❖ Use SketchUp to create a model which began life in the AutoCAD environment and move the rudimentary plan to SketchUp showing that AutoCAD geometry, blocks and layering can be incorporated into a SketchUp model.
 - ❖ Work with architectural walls and its component.
 - ❖ Use google links to a large set of 3D models which you can use in your own design work.
 - ❖ Organize Scenes
 - ❖ Create Textures and Materials

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COURSE CONTENT:

- Introduction Sketchup & Interface
 - ❖ Navigating In Sketchup
 - ❖ Creating Camera Views
 - ❖ Creating Scenes, Shadows And Fog
 - ❖ Using Tools: Select, Move, Scale And Rotate
 - ❖ Advanced Selection Tools

- 2d Drawing In Sketchup
 - ❖ Drawing Tools: Line, Circles, Polygons And Arcs
 - ❖ Pushing And Pulling Faces Into 3d
 - ❖ Using Offset Tool And Follow Me Tools
 - ❖ Creating Text
 - ❖ Softening Round Edges And Creating Sections

- Construction Tools For 3d Modelling
 - ❖ Measurement Of Objects
 - ❖ Angular Measurement And Guides
 - ❖ Axes Tools
 - ❖ Object Dimensioning
 - ❖ Text Cool
 - ❖ 3d Text
 - ❖ 3d Cross Section

- Modification Tools For 3d Modelling
 - ❖ Move, Copy And Linear Arrays
 - ❖ Rotate, Copy And Rotational Arrays
 - ❖ Scaling And Resizing
 - ❖ Offsetting Lines And Faces
 - ❖ Extruding And Subtracting
 - ❖ Path Extrusions
 - ❖ Exercise

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- Model Presentation (Material, Styles & Scenes)
 - ❖ Paint Bucket Tool
 - ❖ Creating Materials
 - ❖ Repositioning Materials
 - ❖ Style Browser
 - ❖ Editing Styles
 - ❖ Lighting And Shadows
 - ❖ Adding Scenes And Creating Animations
 - ❖ Exercise

- Components, Groups And Layers
 - ❖ Understanding And Creating Components
 - ❖ Inserting Components
 - ❖ Editing Components
 - ❖ Creating Groups
 - ❖ Layers
 - ❖ The Google 3d Warehouse
 - ❖ Importing And Exporting

- Creating Curved Surfaces
 - ❖ Follow Me Tool
 - ❖ Exercise – Design Study

- Start To Finish: Modelling A Bungalow
 - ❖ Exercise – Design Study Model
 - ❖ Use Datasets From Autocad

- Plotting Setup & Presentation

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ASSIGNMENT VI

Create a 3D model from 2D drawings of Assignment II to illustrate design ideas.

Submission requirements:

1. To submit a softcopy of design. Minimum 3 views (Landscape or Portrait)
2. To submit a printed hard copy of the board in A3 size format.

ASSIGNMENT VII

Create a video of Assignment VI to illustrate design ideas.

Submission requirements:

1. To submit a softcopy of design video. Maximum 5 minutes.

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MODEL MAKING

Credits	: 2
Contact Hours	: 16
Instructor	: Autodesk Approved Instructor
Instructor Material	: Handouts & Notes

DESCRIPTION:

- The person who is competent in this competency unit shall be able to perform architectural models to evaluate and sell the look of a new construction before it is built. Upon completion of this competency unit, trainees will be able to:- Prepare model making requirement Produce scaled model Present scaled model making to superior

OBJECTIVES:

- Acquire and understanding of integrated process between design, construction and management through digital tool.

LEARNING OUTCOME:

- Prepare model making tools and equipment

COURSE CONTENT:

- Part I Prepare model making tools and equipment
- Part II Produce scaled model
- Part II Present scaled model making

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3DS MAX & V-RAY

Credits	: 4
Contact Hours	: 40
Instructor	: Autodesk Approved Instructor
Instructor Material	: Handouts & Notes

3DS MAX

DESCRIPTION:

- This course provides powerful, integrated 3D modeling, animation, rendering, and compositing that enable artists and designers to more quickly ramp up for production. The software offers experiences and specialized toolsets for architects, designers, engineers, and visualization specialists. The aim of this course is to provide a broad level of understanding required to grasp the essential concepts and principles of 3D Studio Max Design.

OBJECTIVES:

- Create basic models.
- Explore basic model modifications.
- Manage complex model scenes.
- Create and apply camera settings.
- Apply material onto objects.
- Create Artificial lights
- Test Mental Ray render and study the rendering effects.
- Create advance models.
- Explore advance model modifications.
- Manage complex model scenes.
- Create and apply camera settings.
- Create and apply material onto objects.
- Create Architectural Walkthrough animation
- Test Mental Ray advance render and study the rendering effects

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COURSE CONTENT:

Getting to know 3DS Max Design

- Introduction & Touring
- Working with object
- Getting the view you want

BASIC MODELLING & MODIFICATION

Introducing 3DS Max Objects

- Understanding standard primitives
- How 3DS Max sees object
- Making clones that share properties

Creating shapes with splines

- Drawing with splines
- Modifying a shape.
- Outlining and Extruding splines
- Combining & extruding Splines

BASIC SCENE MANAGEMENT

- Objects Grouping
- Naming Object
- Organizing object by layer

Working with external Design Data

- Creating Topography with splines
- Setting up an AutoCAD Plan with 3DS Max
- Importing AutoCAD plans into 3DS Max Design
- Exploring the File link manager

Creating AEC Objects

- Creating a parametric wall
- Adding Doors and Windows to wall
- Changing Elevations with stairs
- Setting boundaries with railings
- Adding foliage to a scene

BASIC OUTPUT

Camera Composition

- Create Target Camera
- Controlling Stock Lenses
- Applying Safe Frames
- Setting up Output Size

Enhancing model with Materials

- Working with Autodesk Material Libraries
- Understanding Mental Ray Arch & Design Material.
- Applying material to objects
- Applying UVW Map modifier

System Daylight & Artificial

- Lighting your model
- Rendering a view
- Shadow effect
- Playing in the shadow
- Using the light Lister
- Controlling Exposure

Rendering

- Controlling the FG Point of the scene.
- Adjusting the scene Exposure.
- Export to JPG

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COURSE CONTENT:

Advanced Modeling

- Working with Editable Poly
- Creating High Poly Furniture
- Creating Customize Windows
- Creating Customize Doors

Advanced Modification

- Understanding Stacked Modifier
- Applying Grass & Fur Modifier
- Applying Cloth Modifier

Advance Management

- Mr Proxy

Advance Output

- Using Multi Sub-Object Material Template
- Understanding of Bump & Displacement
- Understanding Cut Out Materials
- Understanding Depth of Fields
- Using IES Light template
- Using Mr. Sky Portal
- Understanding of Final Gather & Global Illumination

Creating Animation

- Understanding the world of video time
- Creating a quick study animation
- Understanding key frames
- Increasing the number frames in animation segment
- Creating flythrough animation
- Accelerating and decelerating the camera motion smoothly
- Editing key frames
- Adding more frame for additional Camera Motion smoothly
- Creating walkthrough animation
- Moving camera target
- Rendering the animation
- Automating output of multiple still images

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V-RAY FOR 3DS MAX

DESCRIPTION:

- The training module will be focused on creating daytime and nighttime lighting setups, working with physical tools such as V-Ray light sources and cameras, using a wide range of effects as well as creating realistic materials based on physical reality. V-Ray RT will be used a lot in the process which will be giving you interactive feedback on all the changes that you make. After completing the course, participants will be able to work with the rich V-Ray tool pallet when creating realistic interior shots.

OBJECTIVES:

- Import & tuning of 3DS Max Scene
- Set V-Ray real time rendering
- Set V-Ray light
- Set V-Ray Proxy
- Create environment setting
- Import & Set V-Ray materials
- Able to produce Exterior Day rendering

COURSE CONTENT:

Set V-Ray Realtime Rendering

- Assign V-Ray Renderer
- Activate GI
- Activate Shade
- Prospective and Wireframe

V-Ray Sun and Sky System

- Create V-Ray Sun and Sky System

V-Ray Physical Camera

- Create V-Ray Physical Camera
- Save Scene
- V-Ray Physical Camera

Set V-Ray Lights

- V-Ray Sun Modification
- Linear Workflow
- Output Size adjustment
- Save Scene

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Import & Set V-Ray Materials

- Import Material Library
- Apply Materials
- Material Modification
- Save Scene

Environment Settings

- Draft Render Settings
- Common Tab
- V-Ray Tab
- Indirect Illumination Tab
- Settings Tab
- Production Render Settings
- V-Ray Frame Buffer
- Environment Effects
- Save Image
- Quality and Speed Rendering
- Save Scene

Import & Tuning of 3ds Max Scene

- Reset Scene
- Import Scene
- Set V-Ray Real Time Rendering
- Preparation

V-Ray Proxy

Import Materials

IBL (Image Based Lighting)

Draft Render Settings

- Low Preset

V-Ray Physical Camera

- Create & Modify V-Ray Physical Camera

Night-time Exterior

Set up Background

Material Modification

Create & Modify Scene Lightening

V-Ray Environment and Effect

High Preset

Stereoscopic Rendering

Save Scene

Create Lights

Activate GI

Create V-Ray Physical Camera

Lighting the Scene

Create Interior Lights

Preparation for Material Setup

Low Preset

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**Material Modification
Test Render
Productio**

PHOTOSHOP

Credits : 3
Contact Hours : 20
Instructor : Autodesk Approved Instructor
Instructor Material : Handouts & Notes

DESCRIPTION:

- This course is centered in learning how to use Photoshop efficiently and effectively in the best way so that you can get the most out of your images or design. With photoshop course you will learn how to edit an image, crop, transform, retouch, paint, enhance, resize and add artistic touches.

OBJECTIVES:

- Understand the term of photoshop
- Use photoshop to edit an image which made by sketch up or any other software
- Able to work with many types of image editing purpose
- Able to do the design work on presentation board

COURSE CONTENT:

- Exploring photoshop software
- Learning the ways of downloading photoshop software
- Exploring photoshop graphical user interface
- Learning the use of photoshop (tools)
- Learning the right way to choose a good quality image
- Cropping photos
- Adjusting lighting and colour
- Merging the image or design
- Organizing the file management in photoshop

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Creating the design

- Creating text and exploring on text adjustment
- Learning the technique of over lapping the layer's design
- Exploring on the gradient of color
- Exploring the tools of filter
- Design output
- Choosing the theme of the design
- Exploring the image design adjustment
- Arranging the items on canvas
- Creating the ruler grid line
- Learning the blur tools

- Creating text and exploring on text adjustment
- Learning the technique of over lapping the layer's design
- Exploring on the gradient of color
- Exploring the tools of filter
- **Design output**
 - A. Choosing the theme of the design
 - B. Exploring the image design adjustment
 - C. Arranging the items on canvas
 - D. Creating the ruler grid line
 - E. Learning the blur tools

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PRESENTATION & PORTFOLIO

Credits	: 4
Contact Hours	: 40
Instructor	: Autodesk & CIAST Approved Instructor
Material	: Autodesk Official Training Guide
	: Handouts and notes

Presentation of work:

Complete a portfolio of drawing development in size of A3 and present in verbal presentation.

MALAYSIAN SKILL CERTIFICATE IN ARCHITECTURAL DRAUGHTING (LEVEL 3)

Credits	: 5
Contact Hours	: 48
Instructor	: CIAST Approved Instructor
Instructor Material	: Handouts & Notes

DESCRIPTION

- Obtaining the Malaysian Skills Certification through past experience (work or training) without having to sit for any examination. The candidate is required to submit proof of his skills competency which will be assessed by the Assessing Officer and approved by the External Verification Officer appointed by JPK.
- Recognition of Prior Achievement (APA) or formerly known as the Accreditation of Prior Achievement is a method to give recognition to any individual who can demonstrate skills outlined in the National Occupational Skills Standards (NOSS) based on prior experience and achievements.
- The Malaysian Skills Certification Programme was first introduced on 13 September 1996 to acknowledge the contribution of skilled workers in the country. It emphasises the concept of life-long learning and this process can help individuals to evaluate and

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develop the learning they have acquired through formal and informal means.

RECOGNITION

- All industrial workers from the manufacturing and services sectors who have obtained the required working experience in the related field and have fulfilled other set conditions are eligible. Industrial workers who qualify will be awarded a Certificate up to the highest level according to their respective fields as specified in the National Occupational Skills Standards (NOSS).

TARGET

- Open to anyone who has the skills and knowledge regardless of when, how and where they were obtained, either through work experience, life experience or training (formal or informal).

BENEFITS

- Benefits to individuals
 - ❖ Opportunity to gain further recognition and satisfaction and motivation for self-development;
 - ❖ Award of Certificate within a short period of time (no need to attend classes / training / sit for tests), and
 - ❖ Able to contribute to career development.
- Benefits to employers
 - ❖ Raise productivity and performance of the company;
 - ❖ Saving of costs for employee training and certification, and
 - ❖ Improve company image
- Benefits to the country
 - ❖ Increase the number of qualified skilled workers;
 - ❖ Generate growth in the industrial sector in the country with an increase in skilled workers
 - ❖ Improve the country's image in the eyes of the world in terms of goods and services produced, and
 - ❖ Attract foreign investors to invest in the country

LEARNING OUTCOME:

- The Skills Certification Programme is recognised by industry in Malaysia

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- Malaysian Skills Certification Programme provides an attractive career path and personal growth opportunity for participants and is comparable to a career choice based on academic qualifications.
- Malaysian Skills Certification Programme is able to produce skilled workers who are trained and qualified to enhance the competitiveness of local industries in the global market.

COURSE CONTENT:

- According to their respective fields as specified in the National Occupational Skills Standards (NOSS).

PERIOD OF MAXIMUM ASSESSMENT

LEVEL	METHOD	PERIOD
SKM level 1 / 2 / 3	Portfolio Assessment Or	2 months
	Practical Assessment	