



## CAD & DRAUGHTING COURSES



South African Institute of Draughting Training Programme Approval



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## Draughting Accreditation

CAD4ALL Training Academy offers you Draughting Training which is approved by the South African Institute of Draughting (SAID). CAD4ALL Training Academy has perfected and adapted the learning material to suit distance learning



South African Institute of Draughting Training Programme Approval

Finance can be arranged for all our courses. For all training enquiries send an email to [training@cad4all.co.za](mailto:training@cad4all.co.za). Finance application forms, course outlines & enrolments can be downloaded on the CAD4ALL Website [www.cad4all.co.za](http://www.cad4all.co.za) We also accept Credit Card payments



## Introduction to Draughting

A career in Computer Aided Design, CAD draughting and 3D modelling, has endless opportunities. CAD is a product used in architectural, graphic and engineering design, as well as in varied industries such as aerospace engineering, landscape architecture and jewellery design. The need has never been greater such as now for employees who possess computer aided design skills. CAD is the only tool that designers utilise to prepare drawings, specifications, parts lists and other design-related elements using specialised graphics, calculations and intensive computerised programs.

“CAD” originally MEANT computer aided drafting, since its early days it merely automated the manual drafting process. The meaning of CAD is now interpreted as computer aided design since the majority of software packages include 3D modelling and computer-simulated operation of the model.

“CADD” incorporates both: computer aided design and drafting.

When you embark upon training in this field, you will be taught how to prepare technical drawings and building/design plans used by engineering production and construction workers, who build everything from manufactured products - such as toys, toasters, industrial machinery and spacecraft - to structures such as houses, office buildings, oil and gas pipelines.

The computer drawings provide the visual guidelines, INDICATE the technical detail of the products and structures, and specify dimensions, materials and procedures.

Many students are currently working overseas in large national corporations gaining loads of experience as CAD operators.

CAD qualification opens the doors to many long term careers more than any other training program.

## Job Opportunities

**CAD software and technology are extensively used in the following businesses and industries:**

- Architecture
- Bio-Mechanical Systems
- Building Engineering
- Civil Engineering and Infrastructure such as Roads, Highways, Railroads and Tunnels
- Construction
- Consumer Goods
- Digital Circuit Design
- Electrical Engineering
- Electronic and Electrical (ECAD)
- Electronic Design Automation (EDA)
- Factory and Plant Design And Layout
- Fashion Design, Apparel And Textile Cad
- Heating, Ventilation & Air Conditioning (HVAC)
- Industrial Design
- Landscape Architecture & Garden Design
- Manufacturing Process Planning
- Mapping And Surveying
- Mechanical Engineering (MCAD)
- Power Systems Engineering
- Software Applications
- Transportation Engineering, from Automotive to Shipbuilding to Aerospace
- Water Supply, Storm Drain, Wastewater & Sewer Systems And Hydraulic Engineering

# 2D Orientation course

## Draughting in Bricscad

Course Duration: 4 Days (over a 4 week period)  
Time: 09:00 - 13:30  
4 Internal Class Sessions & Self Study Assignments

The Bricscad™ Orientation course will enable students to create a basic 2D drawing. Even at this introduction level, Bricscad™ is one of the most sophisticated computer applications that you are likely to encounter. The teaching strategy is to start with a few basic tools that allow the student to create and edit a simple drawing.

### LEARNING OUTCOMES OF THIS COURSE

- Introduction to Computer basics & Windows
- Understanding the Bricscad™ workspace & user interface
- Draft basic drawings, objects and layers
- Prepare layouts and plots
- Add text, hatching and dimensions
- Set up layers, styles and templates

### Prerequisites:

- Basic Mathematics and Geometric principles

## 2D Orientation course

### Includes:

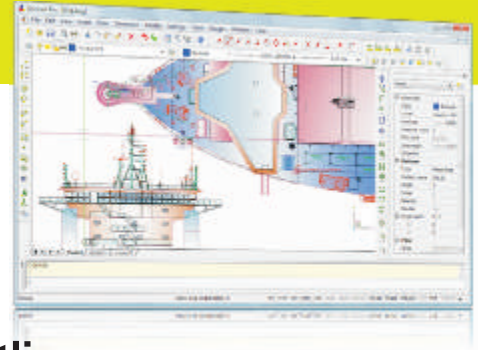
**Interactive training videos**  
**Bricscad™ Training Manual**  
**Certificate of completion**  
**Snacks & tea/coffee included**

## Daily Schedule

08:30 - 09:00 Preparing and Set-up  
09:00 - 09:30 Assessing previous activity  
09:30 - 11:00 Working through Module  
11:00 - 11:30 Break  
11:30 - 13:00 Working through Module  
13:00 - 13:30 Assessing the next activity

Daily Schedule may vary from classes

All Assignments to be completed in the 4 Day Self-Study element between internal classes. These are Self-Study Assignments, for the student to complete at the resource centre with permanent support from a trained CAD Tutor.



## Course Outline

### DAY 1: Module 1 - Basic Computing and Windows

- Basics of Computers & Windows - needed to operate Bricscad.
- What is a personal Computer
- What is Hardware, Software and Peripheral Devices
- What is a CPU, RAM and components
- What is an operating system
- Switching on your computer
- Using the mouse and keyboard
- Opening and closing programs
- Opening and saving files
- Expanding, minimising and closing a window
- Typing a basic document
- Switching off your computer
- Assignment 1 (Student to complete in own time)

### DAY 2: Module 2 - Introduction to Bricscad

- Bricscad Introduction
- Understanding the Bricscad interface
- Opening, Saving and Starting your drawings.
- Drawing a line, Cartesian co-ordinates.
- Zoom functions
- Esnap functions
- Assignment 2 (Student to complete in own time)

### DAY 3: Module 3 - Editing Methods in Bricscad

- Editing objects (Select, Copy, Remove, Explode, Mirror, Move, Offset, Cut, Copy to clipboard and Paste.)
- Drawing Circles (Radius & Diameter)
- Layer control
- Working with Layers (What is a Layer)
- Working with colour
- Opening & Setting up Layers
- Dimensioning
- Linear Dimensions - Radius & Angular
- Text
- Assignment 3 (Student to complete in own time)

### DAY 4: Module 4 - Hatching in Bricscad

- Set up a hatch
- Set hatch pattern
- Set hatch scale
- Set hatch angle
- Pick interior space
- Plot drawing
- Final test



South African Institute of Draughting Training Programme Approval



# 2D Introduction course

## Draughting in Bricscad

Course Duration: 1 Day  
Time: 09:00 - 17:00

The Bricscad™ Introduction course will enable students to create a basic 2D drawing. Even at this introduction level, Bricscad™ is one of the most sophisticated computer applications that you are likely to encounter. The teaching strategy is to start with a few basic tools that allow the student to create and edit a simple drawing.

### LEARNING OUTCOMES OF THIS COURSE

- Understanding the Bricscad™ workspace and user interface
- Draft basic drawings, objects and layers
- Preparing a layout to be plotted
- Adding text, hatching and dimension.
- Setting up layers, styles and templates

### Prerequisites:

- A working knowledge of basic draughting procedures and terminology
- A working knowledge of Windows.

## 2D Introduction course

### Includes:

- Bricscad™ Trial Software**
- Bricscad™ Training Manual**
- Bricscad™ PDF Manual**
- Certificate of completion**
- Lunch & tea/coffee included (lunch voucher)**

## Daily Schedule

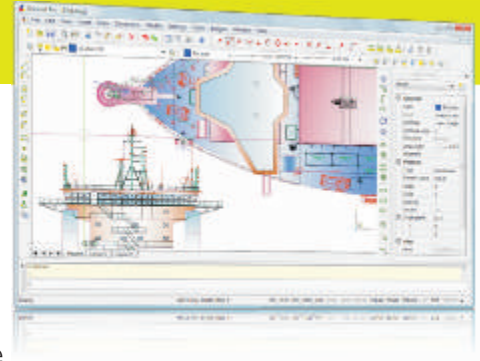
- 08:30 - 09:00 Preparing and Set-up
- 09:00 - 11:00 Bricscad Interface & Drawing in Bricscad
- 11:00 - 11:15 Tea / Coffee brake
- 11:15 - 13:30 Editing Methods & Layers
- 13:30 - 14:00 Lunch
- 14:00 - 15:30 Dimensions, Text & Hatching
- 15:30 - 15:45 Tea / Coffee brake
- 15:45 - 17:00 Blocks, Layouts & Plots

Daily Schedule may vary from classes

## Course Outline

### Introduction & Installation

- Using CAD Commands
- Compare Bricscad to manual draughting
- Drawing to scale
- Organizing Information
- Drawing efficiently
- Online Help
- Installation



### Bricscad Interface

- Understanding the Interface
- Customising the interface

### Drawing in Bricscad

- Absolute Rules
- Drawing a line
- Using the Zoom Commands
- Using the Object Snaps

### Editing Methods

- Copy objects
- Move objects
- Fillets and Chamfers
- Trim and Extend
- Scale
- Stretching / Lengthening

### Layers

- Organising Objects with Layers
- Creating Layers
- Linetype Scales

### Dimensions

- Dimension Toolbar
- Linear dimensions
- Aligned dimensions
- Ordinate dimensions
- Radius dimensions
- Diameter dimensions
- Angular dimensions

### Text & Hatching

- Creating Text
- Editing Text
- Creating Hatches
- Editing Hatches

### Blocks

- Creating Blocks
- Creating and Placing Symbols
- Placing Blocks at measured Intervals
- Exploding Objects

### Layouts & Plots

- Templates
- Plotting drawings
- Model and Layout/Paper Space
- Setting up viewports
- Setting up Titleblocks



# 2D Fundamentals course

## Draughting in Bricscad

IN HOUSE TRAINING PROGRAMMES

Course Duration: 3 Days

Time: 09:00 - 17:00 (Tuesday- Thursday)

The Bricscad™ Fundamentals course will enable students to create detailed 2D drawings. Even at this fundamental level, Bricscad™ is one of the most sophisticated computer applications that you are likely to encounter. Part 1 covers the indispensable core topics for working with Bricscad™. The teaching strategy is to start with a few basic tools that allow the student to create and edit a simple drawing. Part 2 continues with more sophisticated techniques that extend your mastery of the program.

### LEARNING OUTCOMES OF THIS COURSE

- Understanding the Bricscad™ workspace and user interface
- Draft detailed drawings, objects and layers
- Organising drawing objects on layers
- Inserting reusable symbols ( blocks )
- Prepare layouts and plots
- Add text, hatching and dimensions
- Using more advanced editing and construction techniques
- Creating local and global blocks
- Set up layers, styles and templates

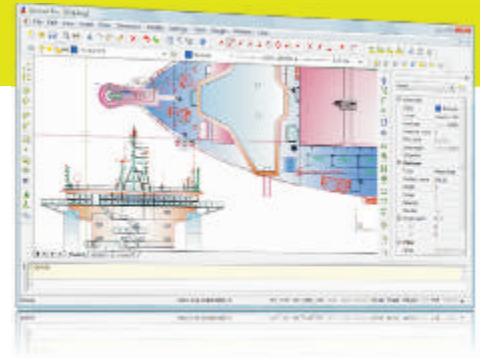
### Prerequisites:

- A working knowledge of basic design/drafting procedures and terminology
- A working knowledge of Windows.

## 2D Fundamentals course

### Includes:

- Bricscad™ Trial Software**
- Bricscad™ Training manual**
- Bricscad™ PDF Manual**
- Pen & Notepad**
- Certificate of completion**
- Lunch & tea/coffee included (lunch voucher)**



## Daily Schedule

### Day 1

- 08:30 - 09:00 Preparing and Set-up
- 09:00 - 11:00 Module 1
- 11:00 - 11:15 Tea / Coffee brake
- 11:15 - 13:30 Module 2
- 13:30 - 14:00 Lunch
- 14:00 - 15:30 Module 3 - Part 1
- 15:30 - 15:45 Tea / Coffee brake
- 15:45 - 17:00 Module 3 - Part 2

### Day 2

- 08:30 - 09:00 Preparing and Set-up
- 09:00 - 11:00 Module 4
- 11:00 - 11:15 Tea / Coffee brake
- 11:15 - 13:30 Module 5
- 13:30 - 14:00 Lunch
- 14:00 - 15:30 Module 6 - Part 1
- 15:30 - 15:45 Tea / Coffee brake
- 15:45 - 17:00 Module 6 - Part 2

### Day 3

- 08:30 - 09:00 Preparing and Set-up
- 09:00 - 11:00 Module 7 - Part 1
- 11:00 - 11:15 Tea / Coffee brake
- 11:15 - 13:30 Module 7 - Part 2
- 13:30 - 14:00 Lunch
- 14:00 - 15:30 Module 8
- 15:30 - 15:45 Tea / Coffee brake
- 15:45 - 17:00 Final Test

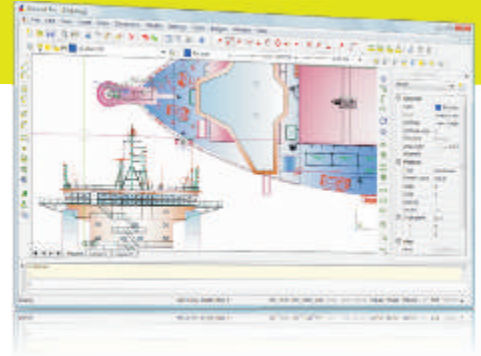
Daily Schedule may vary from classes



# 2D Fundamentals course

IN HOUSE TRAINING PROGRAMMES

## Draughting in Bricscad



### Course Outline

#### DAY 1: MODULE 1 - BRICSCAD TOUR

##### Starting Bricscad

- Tip of the day
- The Bricscad Window
- Basic User Interface Tour
- Command Bar
- UCS Icon
- Online Help

#### MODULE 2 - NAVIGATING THE BRICSCAD INTERFACE

##### Above the drawing area

- Title Bar
- Menu Bar
- Toolbars

##### Below the drawing area

- Layout tools
- Status bar
- Command Bar
- Prompt Menus
- Shortcut Menus
- Properties Palette

#### MODULE 3 - SETTING UP NEW DRAWINGS

##### Before you begin

- Preparing the drawing

##### Starting new drawings

- Units
- Angles
- Plot Style
- Entity Creation

##### Additional Settings

- Limits
- System variables
- Snap and Grid Spacing

##### Layers

- Creating layers
- Naming layers
- Working with layers

##### Saving drawings

- Formats
- Automatic Backups
- Saving A5

#### DAY 2: MODULE 4 - CREATING A DRAWING

- Cartesian Co-ordinate system
- Drawing Lines
- Drawing Circles and Arcs
- Drawing Polylines
- Drawing Rectangles and Polygons
- Trimming, Extending and Offsetting
- Copy, Move and Scaling
- Fillets and Chamfers

#### MODULE 5 - MAKING CHANGES

- Linetypes
- Properties
- Linetype Scale
- Line Lengths
- Listing Data

#### MODULE 6 - NOTES AND DIMENSIONS

- Adding notes to drawings
- Text styles
- Simple Text
- Changing Text
- Rotated Text
- Multiline Text
- Text Display time
- Search and replace Text
- Dimensioning drawings
- Linear and Angled Dimensions
- Radius and Diameter dimensions

#### DAY 3: MODULE 7 - BLOCKS AND ATTRIBUTES

- Creating Blocks
- Creating and Placing Symbols
- Placing Blocks
- Exploding
- Defining Attributes
- Adding more Attributes
- Combining Attributes into Blocks
- Inserting Blocks with Attributes
- Alternatives to insert command
- Block Explorer
- Creating Additional Blocks

#### MODULE 8 - PLOTTING

- CTB and STB files
- Plotters
- Plotting window
- Plotting Options

Final Test



# 2D Advanced course

## Draughting in Bricscad

Course Duration: 4 Days  
Time: 09:00 - 17:00

The Bricscad™ Advanced course will enable students to create a complex 2D drawing. Even at this advanced level, Bricscad™ is one of the most sophisticated computer applications that you are likely to encounter. The teaching strategy is to start with a few basic tools that the student already knows in order to create 2D drawings, followed by the more complex procedures of the program.

### LEARNING OUTCOMES OF THIS COURSE

- Advanced editing methods
- Advanced plotting and layout methods
- System setups
- Advanced blocks and attributes.
- Intro into 3D

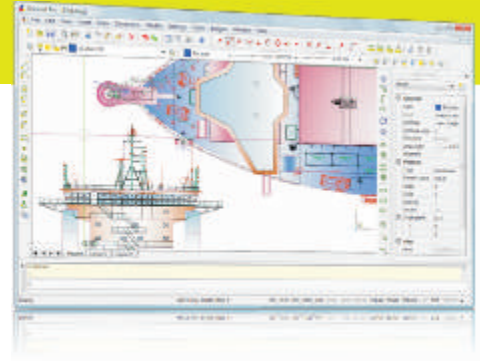
### Prerequisites:

- A working knowledge of basic draughting procedures and terminology
- A good understanding of CAD draughting.

## 2D Advanced course

### Includes:

- Bricscad™ Trial Software**
- Bricscad™ Training manual**
- Bricscad™ PDF Manual**
- Pen & Notepad**
- Certificate of completion**
- Lunch & tea/coffee included (lunch voucher)**



## Daily Schedule

### Day 1

- 08:30 - 09:00 Preparing and Set-up
- 09:00 - 11:00 Module 1
- 11:00 - 11:15 Tea / Coffee brake
- 11:15 - 13:30 Module 2
- 13:30 - 14:00 Lunch
- 14:00 - 15:30 Module 3
- 15:30 - 15:45 Tea / Coffee brake
- 15:45 - 17:00 Module 4

### Day 2

- 08:30 - 09:00 Preparing and Set-up
- 09:00 - 11:00 Module 5
- 11:00 - 11:15 Tea / Coffee brake
- 11:15 - 13:30 Module 6
- 13:30 - 14:00 Lunch
- 14:00 - 15:30 Module 7
- 15:30 - 15:45 Tea / Coffee brake
- 15:45 - 17:00 Module 8

### Day 3

- 08:30 - 09:00 Preparing and Set-up
- 09:00 - 11:00 Module 9
- 11:00 - 11:15 Tea / Coffee brake
- 11:15 - 13:30 Module 10
- 13:30 - 14:00 Lunch
- 14:00 - 15:30 Module 11
- 15:30 - 15:45 Tea / Coffee brake
- 15:45 - 17:00 Module 12

### Day 4

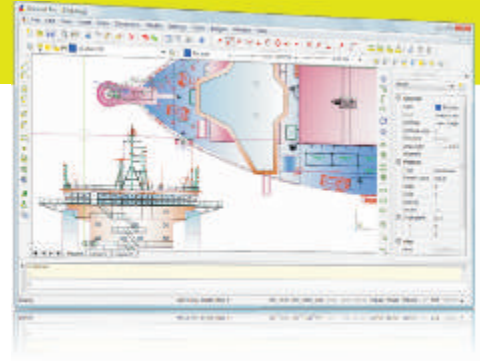
- 08:30 - 09:00 Preparing and Set-up
- 09:00 - 11:00 Module 13
- 11:00 - 11:15 Tea / Coffee brake
- 11:15 - 13:30 Module 14
- 13:30 - 14:00 Lunch
- 14:00 - 15:30 Revise
- 15:30 - 15:45 Tea / Coffee brake
- 15:45 - 17:00 Final Test

Daily Schedule may vary from classes

# 2D Advanced course

## Draughting in Bricscad

IN HOUSE TRAINING PROGRAMMES



### Course Outline

#### DAY 1: MODULE 1 - CAD STANDARDS

- CAD Standards Concepts
- Configuring and Checking Standards
- Layer Translator

#### MODULE 2 - SYSTEM SETUP

- The Settings Dialog
- System Variables
- Setting Up A Design Centre
- Drawing Utilities

#### MODULE 3 - CUSTOMISATION

- Why Customise?
- What Can Be Customised?
- Working with Profiles
- Creating Custom Toolbars
- Customise the Keyboard
- Writing Macros
- Using LISP Routines
- Loading & Running VBA Macros

#### MODULE 4 - WORKING EFFICIENTLY

- Using Right-Click Shortcut Menus
- Using the Keyboard Effectively
- Controlling the Drafting Settings

#### DAY 2: MODULE 5 - QUICK EDITING TECHNIQUES

- Double-Click Editing
- Using Grips Effectively
- Grips with Specific Objects
- Selecting Objects with Quick Select
- Object Selection Tips
- Working With Multiple Drawings

#### MODULE 6 - POLYLINES AND REGIONS

- Using Complex Polylines
- Polylines with Other Commands
- Editing Polylines
- Creating Complex Boundaries
- Working with Regions

#### MODULE 7 - MULTILINES

- Drawing and Editing with Multilines
- Multiline Styles

#### MODULE 8 - ADVANCED BLOCKS

- Inserting Blocks And Multiple Blocks
- Creating Local And Global Blocks
- Special Block Properties
- Revising Blocks

#### DAY 3: MODULE 9 - ATTRIBUTES

- What Are Attributes
- Inserting, Defining and Extracting Attributes
- Editing Attribute Values
- Redefining Blocks with Attributes
- Attribute Strategies

#### MODULE 10 - EXTERNAL REFERENCES

- Working with External References
- Attachments vs. Overlays
- Working with XREF Layers
- Editing XREF's in Place
- Binding and Clipping XREF's

#### MODULE 11 - WORKING WITH IMAGES

- Attaching Raster Images
- Editing Raster Images
- Controlling the Display

#### MODULE 12 - SHARING INFORMATION

- eTransmit
- Hyperlinks
- Object Linking And Embedding

#### DAY 4: MODULE 13 - WORKING WITH LAYOUTS

- Layout Concepts
- Creating a New Layout
- Copying Layouts
- Controlling Viewport Display
- Creating Additional Viewports
- Annotating Layouts
- Plotting a Layout

#### MODULE 14 - ADVANCED PLOTTING FEATURES

- Managing Plotters
- Plotting for the Web
- Publish to Web
- Plot Styles
- Batch Plotting

Final Test



# 3D Introduction course

## Modelling in Bricscad

Course Duration: 2 Days  
Time: 09:00 - 17:00

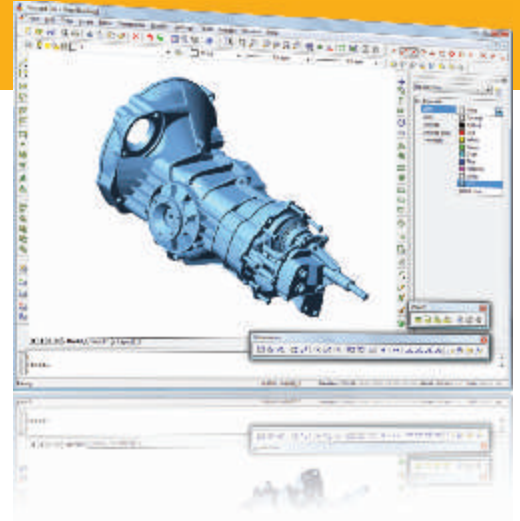
The Bricscad™ Introduction 3D course will enable students to create basic 3D drawings. Even at this 3D introduction level, Bricscad™ is one of the most sophisticated computer modelling applications that you are likely to encounter. The teaching strategy is to start with a few basic tools that allow the student to create and edit a simple drawing.

### LEARNING OUTCOMES OF THIS COURSE

- Basic 3D Modelling Concepts
- Working drawings and 3D Objects
- Creating Surfaces
- Solid Modelling.

### Prerequisites:

- A working knowledge of basic draughting procedures and terminology
- A good understanding of Bricscad™ 2D Fundamentals.



# COMING SOON!

# 3D Advanced course

## Modelling in Bricscad

Course Duration: 3 Days  
Time: 09:00 - 17:00

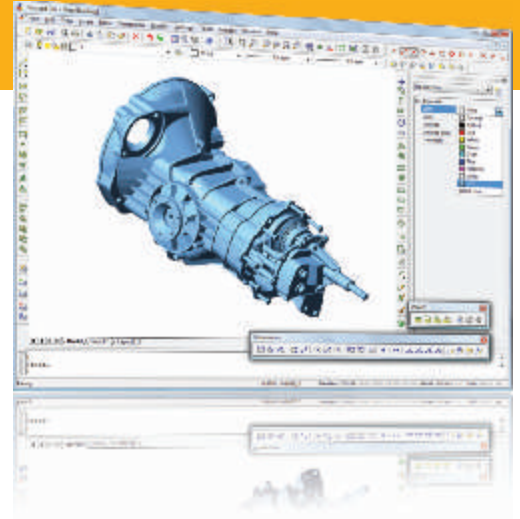
The Bricscad™ Advanced 3D course will enable students to create a complex 3D modelling drawing. Even at this advanced level, Bricscad™ is one of the most sophisticated computer modelling applications that you are likely to encounter. The teaching strategy is to start with a few basic tools that the student already knows in order to create the basic 3D drawings, followed by the more complex procedures of the program.

### LEARNING OUTCOMES OF THIS COURSE

- Advanced 3D Concepts
- Working drawings and 3D Objects
- Creating Surfaces
- Solid Modelling
- Rendering

### Prerequisites:

- A working knowledge of basic draughting procedures and terminology
- A good understanding of Bricscad™ Basic 3D principals.



# COMING SOON!

# 3D Architecturals course

## Building Information Modelling - BIM

Course Duration: 5 Days  
Time: 09:00 - 17:00

The Bricscad™ 3D Architectural BIM course will enable students to create modelling via Building Information.

Even at this advanced level, Bricscad™ Architectural is one of the most sophisticated computer applications that you are likely to encounter.

### LEARNING OUTCOMES OF THIS COURSE

- Manipulating 3D Objects
- Solid modelling and editing
- Additional drawing projects
- Presentation of 3D models
- Bill of Materials

### Prerequisites:

- A working knowledge of basic draughting procedures and terminology
- A working knowledge of 3D Drawings and Modelling.



# COMING SOON!

# 2D Basic to Intermediate course

CORRESPONDENCE – DISTANCE LEARNING

## Draughting in Bricscad

Course Duration: 6 Months

Time: Self-Study on your own time

The Bricscad™ Correspondence course will enable students to create a basic 2D drawing. Even at this fundamental level, Bricscad™ is one of the most sophisticated computer applications that you are likely to encounter. Part 1 covers the indispensable core topics for working with Bricscad™. The teaching strategy is to start with a few basic tools that allow the student to create and edit a simple drawing. Part 2 continues with more sophisticated techniques that extend your mastery of the program.

### LEARNING OUTCOMES OF THIS COURSE

- Understanding the Bricscad™ workspace and user interface
- Draft basic drawings, objects and layers
- Organising drawing objects on layers
- Inserting reusable symbols ( blocks )
- Prepare layouts and plots
- Add text, hatching and dimensions
- Using more advanced editing and construction techniques
- Creating local and global blocks
- Set up layers, styles and templates

### Prerequisites:

- A working knowledge of basic design/drafting procedures and terminology
- A working knowledge of Windows / Word Processor.

## 2D Basic to Intermediate course

### Includes:

**Bricscad™ Textbook - 2D Manual**

**Bricscad™ Workbook**

**Bricscad™ Study Schedule / Assignments**

**Bricscad™ Interactive CD**

**Bricscad™ Academic Bricscad Software CD**

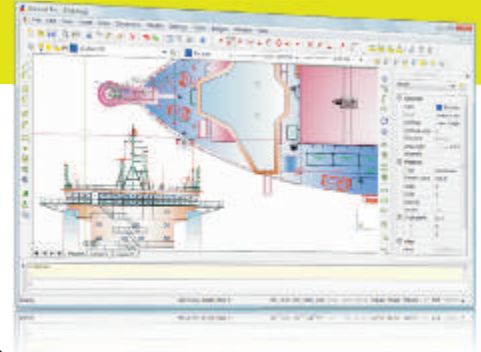
**A5 Notepad & Pen**

**NB: Certificate to be issued on completion of course.**

## Course Outline

### Introduction & Installation

- Using CAD Commands
- Compare Bricscad to manual draughting
- Drawing to scale
- Organizing Information
- Drawing efficiently
- Online Help
- Installation



### Bricscad Interface

- Understanding the Interface
- Customising the interface

### Drawing in Bricscad

- Absolute Rules
- Drawing a line
- Using the Zoom Commands
- Using the Object Snaps

### Editing Methods

- Copy objects
- Move objects
- Fillets and Chamfers
- Trim and Extend
- Scale
- Stretching / Lengthening

### Layers

- Organising Objects with Layers
- Creating Layers
- Linetype Scales

### Dimensions

- Dimension Toolbar
- Linear dimensions
- Aligned dimensions
- Ordinate dimensions
- Radius dimensions
- Diameter dimensions
- Angular dimensions

### Text & Hatching

- Creating Text
- Editing Text
- Creating Hatches
- Editing Hatches

### Blocks

- Creating Blocks
- Creating and Placing Symbols
- Placing Blocks at measured Intervals
- Exploding Objects

### Layouts & Plots

- Templates
- Plotting drawings
- Model and Layout/Paper Space
- Setting up viewports
- Setting up Titleblocks



# 2D Advanced course

## Draughting in Bricscad

CORRESPONDENCE – DISTANCE LEARNING

Course Duration: 6 Months

Time: Self-Study on your own time

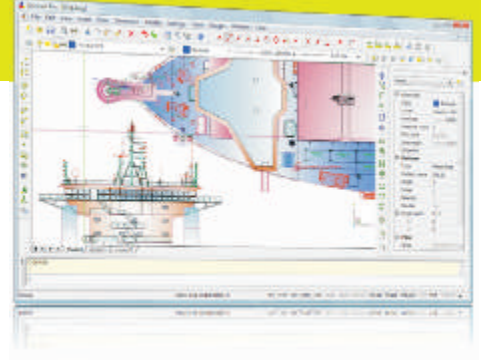
The Bricscad™ Advanced course will enable students to create a complex 2D drawing. Even at this advanced level, Bricscad™ is one of the most sophisticated computer applications that you are likely to encounter. The teaching strategy is to start with a few basic tools that the student already knows in order to create 2D drawings, followed by the more complex procedures of the program.

### LEARNING OUTCOMES OF THIS COURSE

- Advanced editing methods
- Advanced plotting and layout methods
- System setups
- Advanced blocks and attributes.

### Prerequisites:

- A working knowledge of basic draughting procedures and terminology
- A good understanding of CAD draughting.

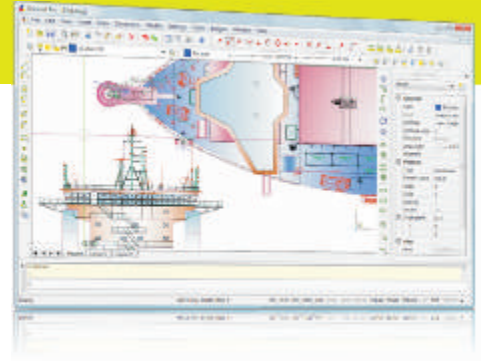


## 2D Advanced course

### Includes:

- Bricscad™ Trial Software**
- Bricscad™ Training manual**
- Bricscad™ PDF Manual**
- Pen & Notepad**
- Certificate of completion**





### Course Outline

#### DAY 1: MODULE 1 - CAD STANDARDS

- CAD Standards Concepts
- Configuring and Checking Standards
- Layer Translator

#### MODULE 2 - SYSTEM SETUP

- The Settings Dialog
- System Variables
- Setting Up A Design Centre
- Drawing Utilities

#### MODULE 3 - CUSTOMISATION

- Why Customise?
- What Can Be Customised?
- Working with Profiles
- Creating Custom Toolbars
- Customise the Keyboard
- Writing Macros
- Using LISP Routines
- Loading & Running VBA Macros

#### MODULE 4 - WORKING EFFICIENTLY

- Using Right-Click Shortcut Menus
- Using the Keyboard Effectively
- Controlling the Drafting Settings

#### DAY 2: MODULE 5 - QUICK EDITING TECHNIQUES

- Double-Click Editing
- Using Grips Effectively
- Grips with Specific Objects
- Selecting Objects with Quick Select
- Object Selection Tips
- Working With Multiple Drawings

#### MODULE 6 - POLYLINES AND REGIONS

- Using Complex Polylines
- Polylines with Other Commands
- Editing Polylines
- Creating Complex Boundaries
- Working with Regions

#### MODULE 7 - MULTILINES

- Drawing and Editing with Multilines
- Multiline Styles

#### MODULE 8 - ADVANCED BLOCKS

- Inserting Blocks And Multiple Blocks
- Creating Local And Global Blocks
- Special Block Properties
- Revising Blocks

#### DAY 3: MODULE 9 - ATTRIBUTES

- What Are Attributes
- Inserting, Defining and Extracting Attributes
- Editing Attribute Values
- Redefining Blocks with Attributes
- Attribute Strategies

#### MODULE 10 - EXTERNAL REFERENCES

- Working with External References
- Attachments vs. Overlays
- Working with XREF Layers
- Editing XREF's in Place
- Binding and Clipping XREF's

#### MODULE 11 - WORKING WITH IMAGES

- Attaching Raster Images
- Editing Raster Images
- Controlling the Display

#### MODULE 12 - SHARING INFORMATION

- eTransmit
- Hyperlinks
- Object Linking And Embedding

#### DAY 4: MODULE 13 - WORKING WITH LAYOUTS

- Layout Concepts
- Creating a New Layout
- Copying Layouts
- Controlling Viewport Display
- Creating Additional Viewports
- Annotating Layouts
- Plotting a Layout

#### MODULE 14 - ADVANCED PLOTTING FEATURES

- Managing Plotters
- Plotting for the Web
- Publish to Web
- Plot Styles
- Batch Plotting

Final Test

# 2D Combo course

CORRESPONDENCE – DISTANCE LEARNING

## Introduction to Draughting & CAD Draughting in Bricscad

Course Duration: 9 Months

Time: Self-Study on your own time

The Bricscad™ Correspondence course will enable students to create a basic 2D drawing. Even at this fundamental level, Bricscad™ is one of the most sophisticated computer applications that you are likely to encounter. Part 1 covers the indispensable core topics for working with Bricscad™. The teaching strategy is to start with a few basic tools that allow the student to create and edit a simple drawing. Part 2 continues with more sophisticated techniques that extend your mastery of the program.

### LEARNING OUTCOMES OF THIS COURSE

- Understanding the Bricscad™ workspace and user interface
- Draft basic drawings, objects and layers
- Organising drawing objects on layers
- Inserting reusable symbols ( blocks )
- Prepare layouts and plots
- Add text, hatching and dimensions
- Using more advanced editing and construction techniques
- Creating local and global blocks
- Set up layers, styles and templates
- Draughting - Principals & Standards

### Prerequisites:

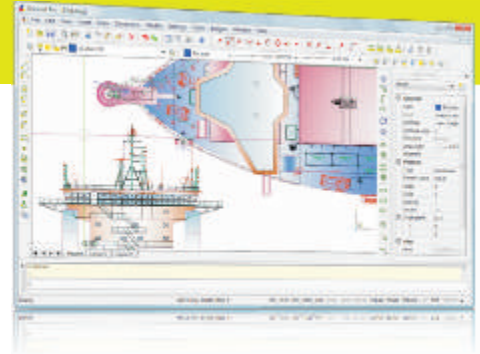
- A working knowledge of basic design/drafting procedures and terminology
- A working knowledge of Windows / Word Processor.

## 2D Combo course

### Includes:

**Bricscad™ Textbook - 2D Manual**  
**Bricscad™ Workbook**  
**Bricscad™ Study Schedule**  
**Bricscad™ Interactive CD**  
**Bricscad™ Academic Software CD**  
**Draughting Course**  
**Drawing Kit**  
**A5 Notepad & Pen**

**NB: Certificate to be issued on completion of course.**



## Course Outline

### Basic Principles of Engineering Drawing

- Introduction
- The History of Engineering Drawing
- What is Engineering Drawing?
- Engineering Drawing as a means of communication
- Important functions of Engineering Drawing
- The uses of Engineering Drawing
- The purpose of Engineering Drawing as a subject
- The drawing office
- Drawing equipment and instruments
- Drawing paper sizes
- The application of drawing instruments
- The alphabet of Engineering Drawing
- Printing letters and figures
- Examples of vertical capital letters and figures
- Dimensions

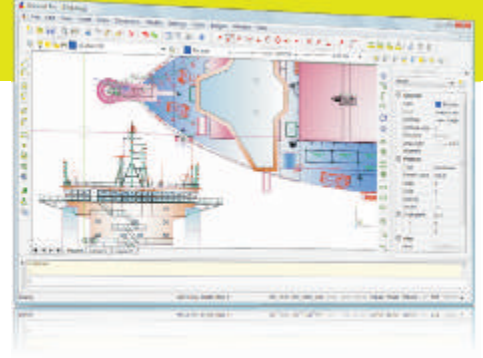
### Free hand drawing

- Introduction
- Instruments used for freehand drawing
- Aspects of freehand drawing
- Freehand drawing of complex shapes
- Drawing horizontal lines
- Drawing vertical lines
- Drawing diagonal lines
- Freehand drawing of circles and arcs
- Freehand drawing using square-grid paper

### Geometrical Constructions

- Introduction
- Instrument requirements
- Construction to bisect a straight-line segment
- Construction to bisect a 45° angle
- Construction of a 60° angle
- Construction to bisect a 60° angle
- Construction to bisect a 30° angle
- Construction of a 75° angle
- Construction of a perpendicular line from a given point on a line
- Construction of a perpendicular line from a given point outside a given line
- Construction of a perpendicular line at the end of a given line segment
- Construction of a parallel to another line at a given distance
- Dividing a given line segment into any number of equal parts
- Construction of an arc of a circle to lines forming a right angle





### Course Outline

- Construction of an arc of a circle to lines forming an acute angle
- Construction of an arc of a circle to lines forming an obtuse angle
- Construction of an arc of a circle to a line and an arc or circle
- Construction of an arc of a circle to two arcs or circles
- Drawing a circle to pass through any points A, B and C
- Construction of an equilateral triangle
- Construction of a square: the inscribed-circle method
- Construction of a square: the circumscribed-circle method
- Construction of a hexagon: the across flats method
- Construction of a hexagon: the across-corners method
- Construction of an octagon: the across flats method
- Construction of an octagon: the across-corners method
- Construction of an ellipse

#### First-angle Orthographic Projection

- Introduction
- Visualisation
- What makes an orthographic view?
- Principles of first-angle orthographic projection
- Projection system symbol for first-angle orthographic projection
- Projection methods for first-angle for first-angle orthographic projection
- Reading an engineering drawing
- Setting up an orthographic projection drawing

#### Introduction & Installation

- Using CAD Commands
- Compare Bricscad to manual draughting
- Drawing to scale
- Organizing Information
- Drawing efficiently
- Online Help
- Installation

#### Bricscad Interface

- Understanding the Interface
- Customising the interface

#### Drawing in Bricscad

- Absolute Rules
- Drawing a line
- Using the Zoom Commands
- Using the Object Snaps

#### Editing Methods

- Copy objects
- Move objects
- Fillets and Chamfers
- Trim and Extend
- Scale
- Stretching / Lengthening

#### Layers

- Organising Objects with Layers
- Creating Layers
- Linetype Scales

#### Dimensions

- Dimension Toolbar
- Linear dimensions
- Aligned dimensions
- Ordinate dimensions
- Radius dimensions
- Diameter dimensions
- Angular dimensions

#### Text & Hatching

- Creating Text
- Editing Text
- Creating Hatches
- Editing Hatches

#### Blocks

- Creating Blocks
- Creating and Placing Symbols
- Placing Blocks at measured Intervals
- Exploding Objects

#### Layouts & Plots

- Templates
- Plotting drawings
- Model and Layout/Paper Space
- Setting up viewports
- Setting up Titleblocks

# 2D Combo course

CORRESPONDENCE – DISTANCE LEARNING

## Architectural Draughting & CAD Draughting in Bricscad

Course Duration: 12 Months

Time: Self-Study on your own time

The Bricscad™ Correspondence course will enable students to create a basic 2D drawing. Even at this fundamental level, Bricscad™ is one of the most sophisticated computer applications that you are likely to encounter. Part 1 covers the indispensable core topics for working with Bricscad™. The teaching strategy is to start with a few basic tools that allow the student to create and edit a simple drawing. Part 2 continues with more sophisticated techniques that extend your mastery of the program.

### LEARNING OUTCOMES OF THIS COURSE

- Understanding the Bricscad™ workspace and user interface
- Draft basic drawings, objects and layers
- Organising drawing objects on layers
- Inserting reusable symbols ( blocks )
- Prepare layouts and plots
- Add text, hatching and dimensions
- Using more advanced editing and construction techniques
- Creating local and global blocks
- Set up layers, styles and templates
- Architectural draughting basics & principals

### Prerequisites:

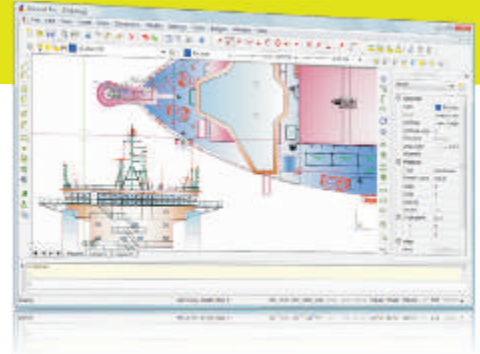
- A working knowledge of basic design/drafting procedures and terminology
- A working knowledge of Windows / Word Processor.

## 2D Combo course

### Includes:

**Bricscad™ Textbook - 2D Manual**  
**Bricscad™ Workbook**  
**Bricscad™ Study Schedule**  
**Bricscad™ Interactive CD**  
**Bricscad™ Academic Software CD**  
**Architectural Draughting course**  
**Drawing kit**  
**A5 Notepad & Pen**

**NB: Certificate to be issued on completion of course.**



## Course Outline

### Explain & Interpret Construction Drawings & Specifications

- Explain the role of drawings and specifications
- Quantities and construction
- Payment for contractors

### Identify & Interpret Drawings & Symbols used on a Drawing

- The use of drawings on a construction job
- Scales of drawings

### Building Drawings (plans)

- Different kinds of drawings
- Reading floor plans
- Specifications and notes
- Drawing symbols and abbreviations
- Revising and caring for drawings
- Application of drawings for setting out
- Summative assessment
- Topic summary

### Basic Drawing Skills – Instruments

- Drawing equipment and instruments
- Drawing paper
- The use of drawing instruments
- Printing letters and figures
- Dimension and extension lines
- The design process
- Interpreting drawing briefs
- Interpreting building drawings
- Points to remember when interpreting a building plan

### Basic Drawing Skills – Freehand

- Freehand drawing
- Interpreting freehand drawings
- Summative assessment
- Topic summary

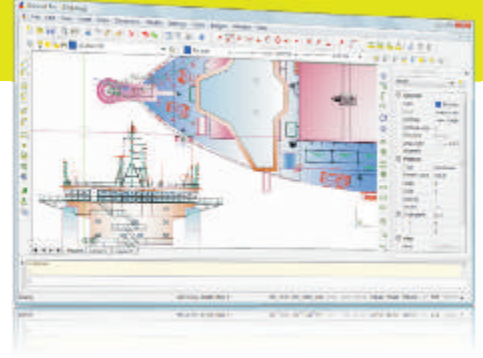
### Basic Systems of Measurement

- The metric system
- The "imperial" system, and converting to metric.

### Measurement of Quantities

- Use the units of measurement and symbols in calculations
- Measuring quantities from drawings and from site
- Summative assessment
- Topic summary
- The "imperial" system and converting to metric





### Course Outline

#### Levelling Measuring & Setting-out Instruments & Accessories

- The use and adjustment levelling, measuring and setting-out instruments
- Use various instruments correctly for measuring, setting-out
- Summative assessment
- Topic summary

#### Dumpy Level

- The use and adjustment of the dumpy level
- Use and application of a dumpy level
- Proper care of the dumpy level and tripod
- Summative assessment
- Topic summary

#### Introduction to Quantity Surveying Concepts

- Various kind of building contractors
- Terms in quantity surveying

#### Calculation of Quantities & Costs

- Calculating quantities based on drawings
- Calculating costs of material according to the building drawing and specifications
- Investigating prices for the materials
- Calculate costs of material as specified in the building plan
- Buying materials for a project
- Labour rates
- Summative assessment
- Topic summary

#### Introduction & Installation

- Using CAD Commands
- Compare Bricscad to manual draughting
- Drawing to scale
- Organizing Information
- Drawing efficiently
- Online Help
- Installation

#### Bricscad Interface

- Understanding the Interface
- Customising the interface

#### Drawing in Bricscad

- Absolute Rules
- Drawing a line
- Using the Zoom Commands
- Using the Object Snaps

#### Editing Methods

- Copy objects
- Move objects
- Fillets and Chamfers
- Trim and Extend
- Scale
- Stretching / Lengthening

#### Layers

- Organising Objects with Layers
- Creating Layers
- Linetype Scales

#### Dimensions

- Dimension Toolbar
- Linear dimensions
- Aligned dimensions
- Ordinate dimensions
- Radius dimensions
- Diameter dimensions
- Angular dimensions

#### Text & Hatching

- Creating Text
- Editing Text
- Creating Hatches
- Editing Hatches

#### Blocks

- Creating Blocks
- Creating and Placing Symbols
- Placing Blocks at measured Intervals
- Exploding Objects

#### Layouts & Plots

- Templates
- Plotting drawings
- Model and Layout/Paper Space
- Setting up viewports
- Setting up Titleblocks

# 3D Basic Modelling course

## Modelling in Bricscad

Course Duration: 6 Months

Time: Self-Study on your own time

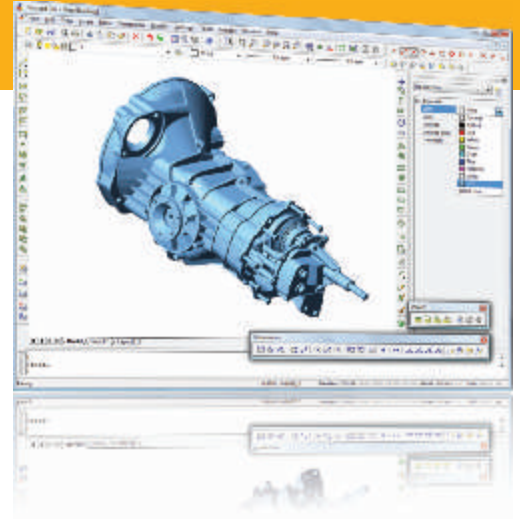
The Bricscad™ Introduction 3D course will enable students to create basic 3D drawings. Even at this 3D introduction level, Bricscad™ is one of the most sophisticated computer modelling applications that you are likely to encounter. The teaching strategy is to start with a few basic tools that allow the student to create and edit a simple drawing.

### LEARNING OUTCOMES OF THIS COURSE

- Basic 3D Modelling Concepts
- Working drawings and 3D Objects
- Creating Surfaces
- Solid Modelling.

### Prerequisites:

- A working knowledge of basic draughting procedures and terminology
- A good understanding of Bricscad™ 2D Fundamentals.



# COMING SOON!

# 3D Advanced Modelling course

## Modelling in Bricscad

Course Duration: 6 Months

Time: Self-Study on your own time

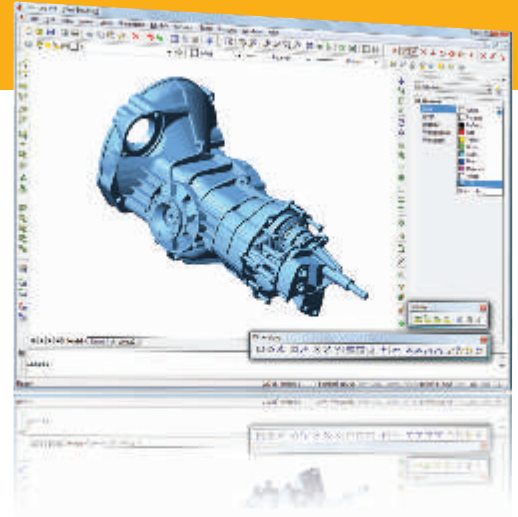
The Bricscad™ Advanced 3D course will enable students to create a complex 3D modelling drawing. Even at this advanced level, Bricscad™ is one of the most sophisticated computer modelling applications that you are likely to encounter. The teaching strategy is to start with a few basic tools that the student already knows in order to create the basic 3D drawings, followed by the more complex procedures of the program.

### LEARNING OUTCOMES OF THIS COURSE

- Advanced 3D Concepts
- Working drawings and 3D Objects
- Creating Surfaces
- Solid Modelling
- Rendering

### Prerequisites:

- A working knowledge of basic draughting procedures and terminology
- A good understanding of Bricscad™ Basic 3D principals.



# COMING SOON!