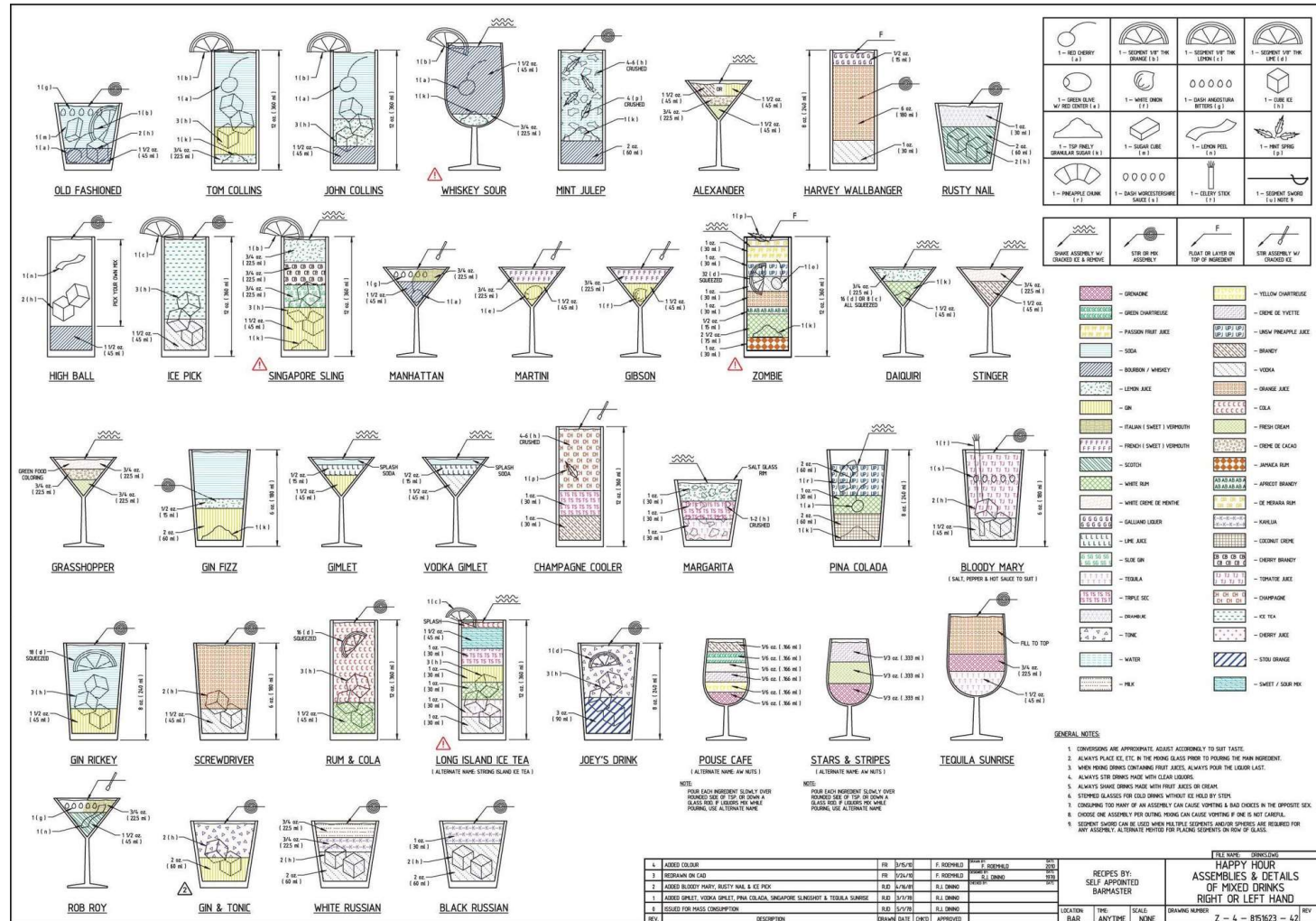


Working with Digital Technologies CAD



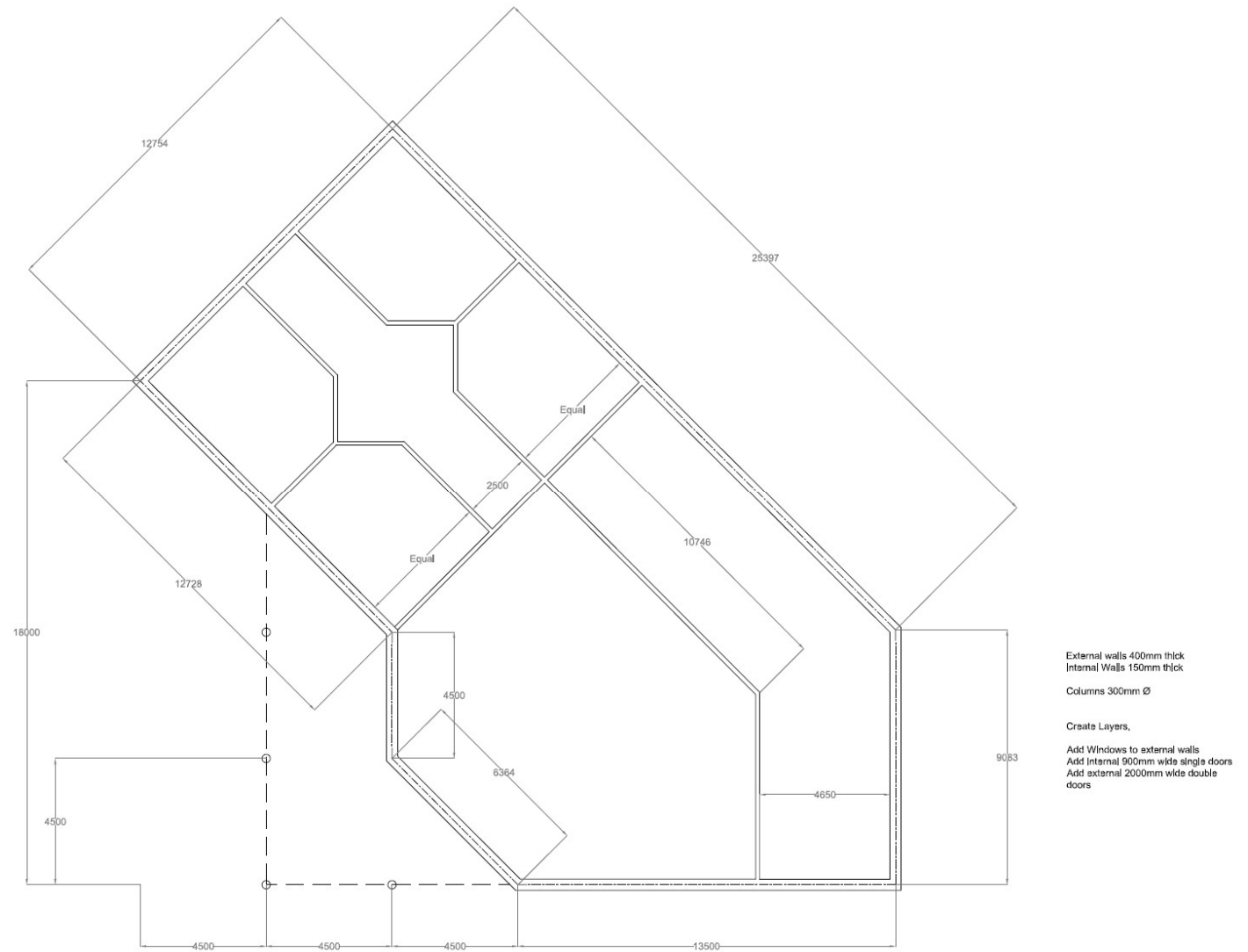
<http://www.arch2o.com/wp-content/uploads/2016/07/Architects-Guide-to-Drinks-Blueprint01.jpg>

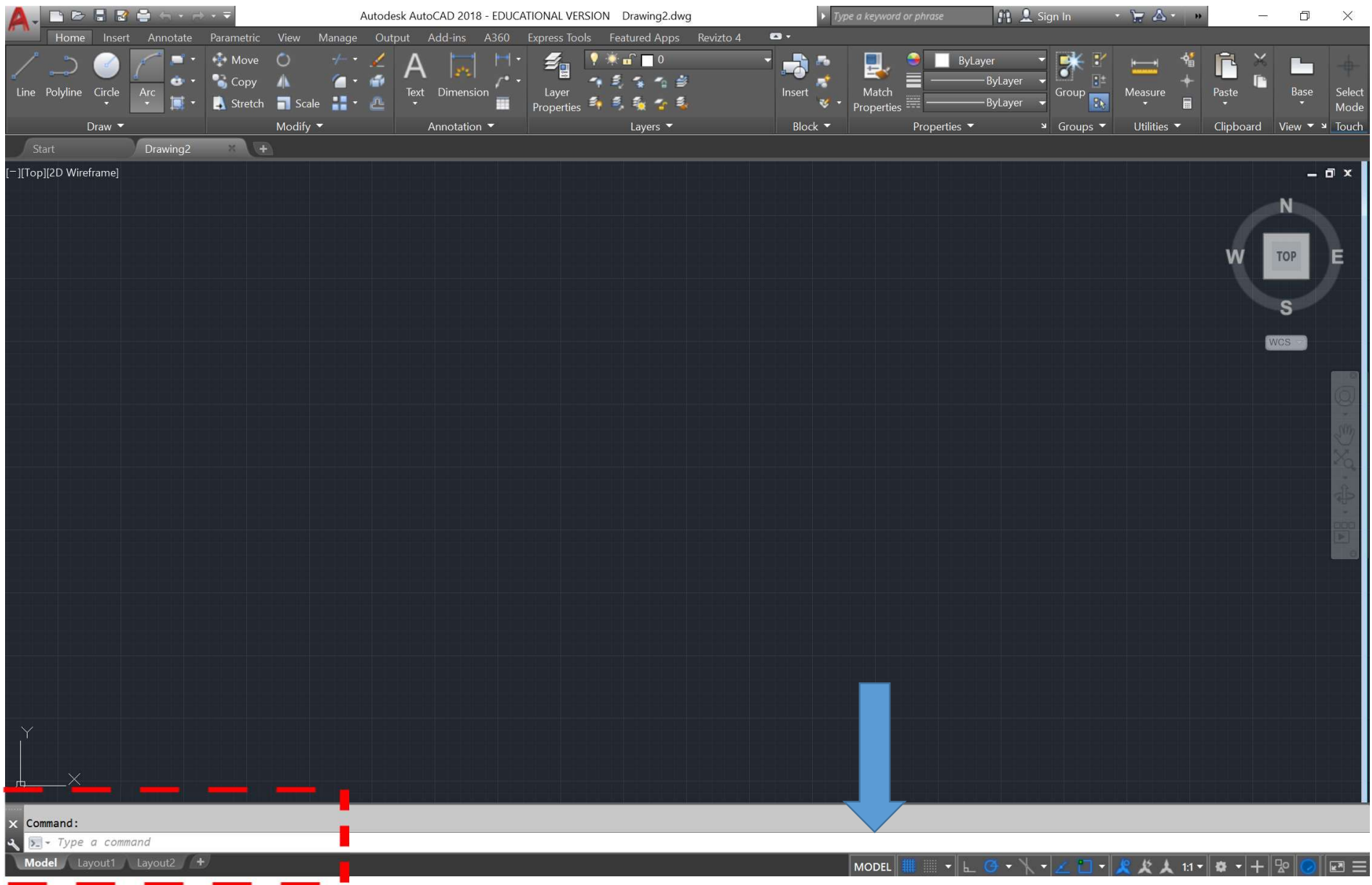
Gavin M Traylor RIBA

Exercise 4

Some sketch plans need to be drawn for a new office block. General dimensions are given opposite.

Download the file from Teams
and add the data required.





Model Space and Paper Space – Layout and Scale

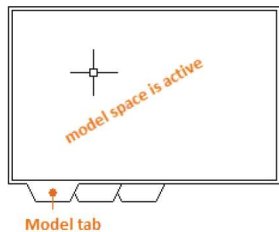
Layouts

Display one or more scaled views of your design on a standard-size drawing sheet called a layout.

After you finish creating a model at full size, you can switch to a *paper space layout* to create scaled views of the model, and to add notes, labels, and dimensions. You can also specify different linetypes and line widths for display in paper space.

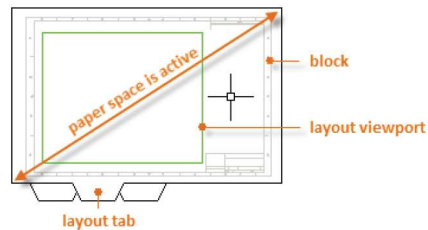
Model Space and Paper Space

As you know, you create the geometry of your model in *model space*.



Originally, this was the only space available in AutoCAD. All notes, labels, dimensions, and the drawing border and title block were also created and scaled in the model space.

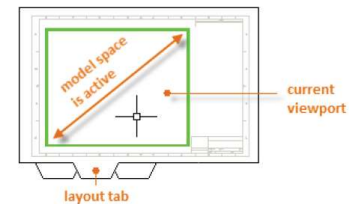
After *paper space* was introduced, you could click a layout tab to access a space designed specifically for layouts and scaling. In the following illustration, paper space is active. There are currently only two objects in paper space: a drawing border block, and a single *layout viewport*, which displays a view of model space.



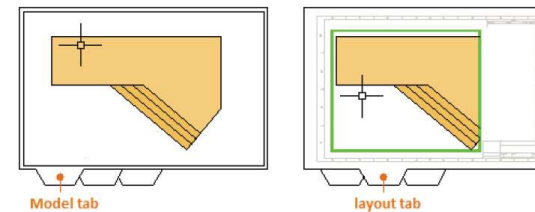
Working with layout viewports is described in more detail later in this topic.

Layout Viewports

A layout viewport is an object that is created in paper space to display a scaled view of model space. You can think of it as a closed-circuit TV monitor that displays part of model space. In the illustration, model space is active and accessible from within the current layout viewport.



In a layout, when model space is active, you can pan and zoom, and anything else that you could do on the Model tab. For example, let's say that you created a backyard deck design in model space, and now you want to lay out and print your design from a layout tab.



The view in the layout viewport is not yet set to the correct scale.

[illegible]

Plotting / Printing (PDF)

Click on



Select Print

PLOT window will appear

Change Printer to either
ADOBE PDF or AUTOCAD PDF

Ensure:

Paper Size is 'ISO A1'

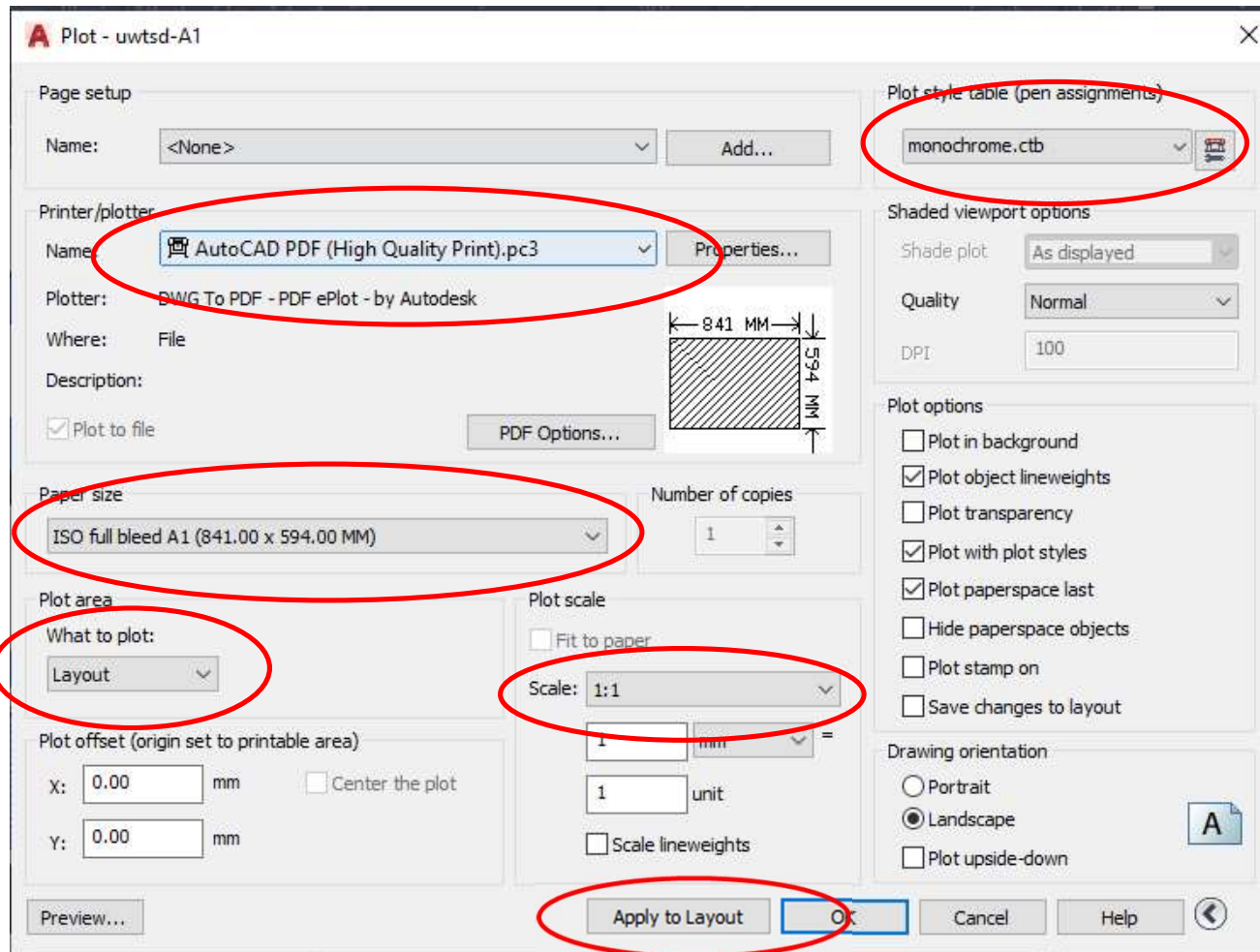
Plot area is set to 'Layout'

Plot scale is 1:1

Plot style can be set to
'monochrome'

Apply to Layout saves your setting.

Click OK



Exporting to (PDF)

Click on



Select Export

> PDF

Check the PDF Preset

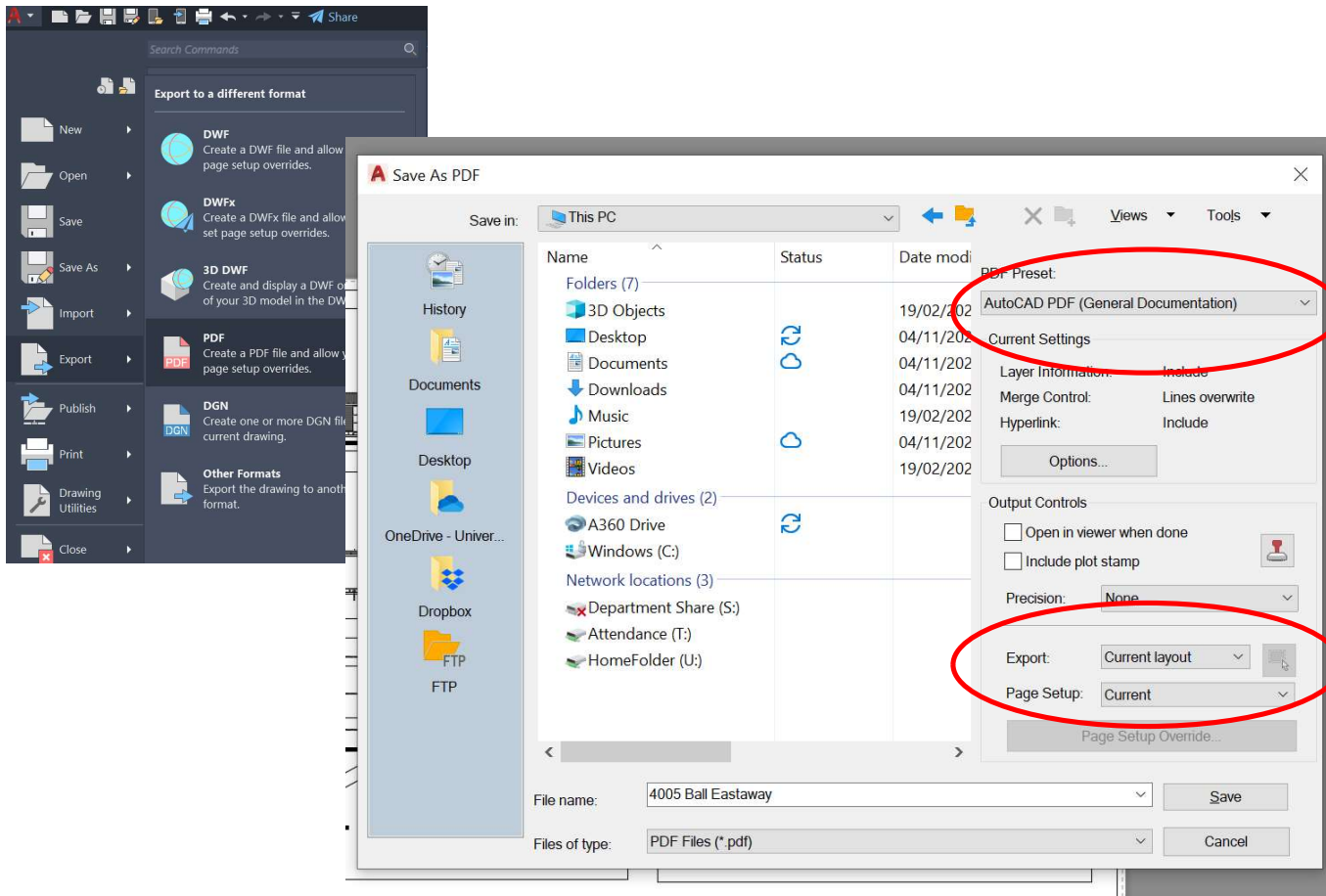
AutoCAD PDF (General Documentation) is usually suitable for simple drawings

Check the Export settings

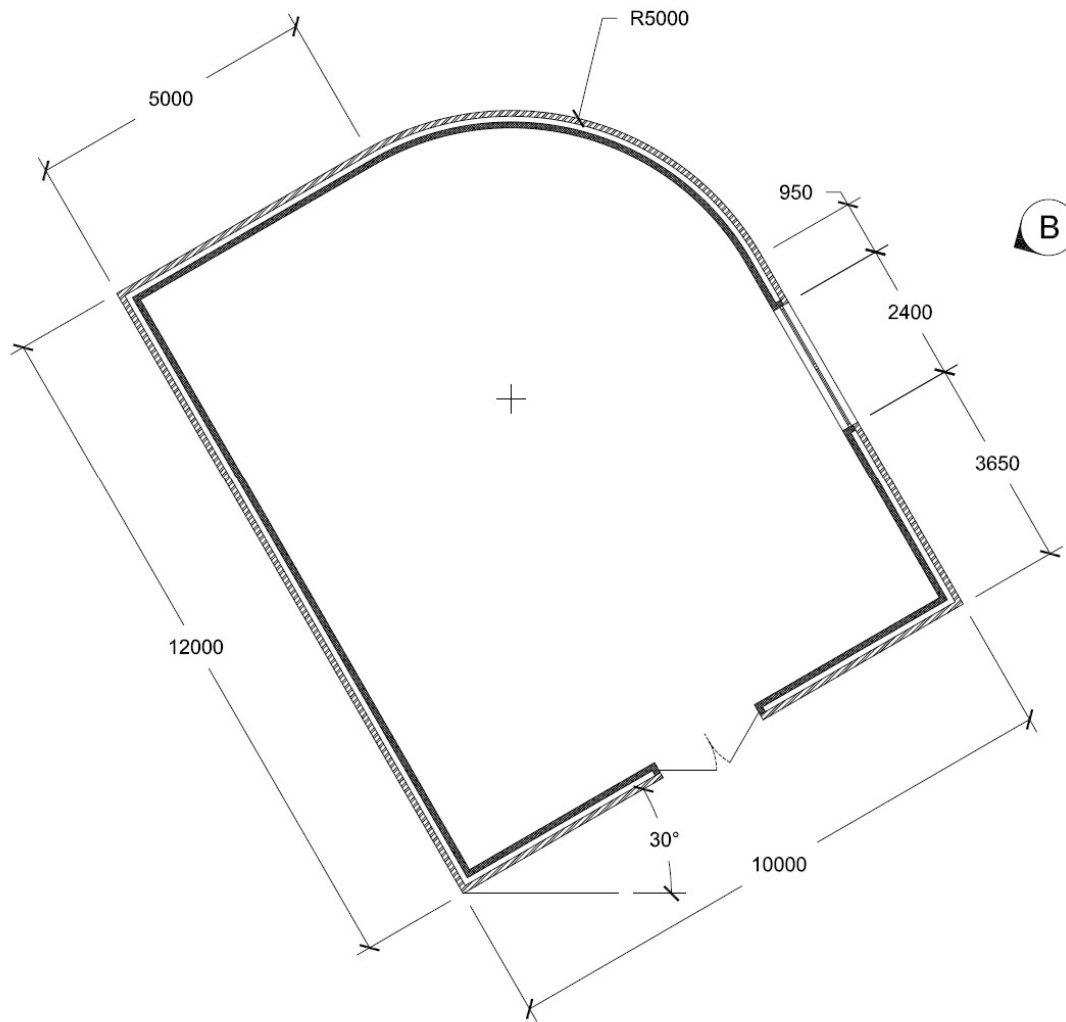
Export: Current Layout

Page Setup: Current

You MUST ensure that the layout setting in AutoCAD are correct, so the drawing will not export to scale.



Exercise 5



Create a new drawing using the UWTSD titleblock.

Draw the building opposite to the dimensions show.
Create a UCS angled at 30° to set out your building.
Draw an the East Facing elevation marked (A) by
using Orthographic projection and create a new UCS
to help you.
Draw the North Easterly Elevation marked (B) by
using orthographic projection and new UCS.

Assume the following:

Walls: 100mm brick / 100mm cavity / 100mm block

Roof monopitched from front to back. Lowest point
2500mm Highest point 4000mm

Door head height 2100mm

Cill Height 900mm Window head height 2100mm

Sketch plan is available on Teams

Once the drawing is completed
create a view at 1:50 scale using
viewports in Paper Space.
Complete the BIM titleblock

UWTSO Title Block / Template File

General		Architectural		Electrical	Interior Design	Landscape	Mechanical	Structural

[illegible]

Status code	Which Information container should the status code be used for?	Revision
Work in Progress (WIP)		
S0	Information containers being developed within a task team	PO1 to PO4
Shared (non-contractual)		
S1	Information containers that are suitable for geometrical and/or non-geometrical coordination by other task teams within the delivery team	
S2	Information containers that are suitable for information redundancy by other task teams within the delivery team	
S3	Information containers that are suitable for review and comment within delivery teams	PO1 to PO4
S4	Information containers that are suitable for review and comment by the Lead Appointing Party	
S5	Information containers that are suitable for review and comment by the Appointing Party (Client)	
Published (contractual)		
A3, A4, A5, A6 etc.	Information containers where there are no comments from the party being invited to authorise them (if they are in response to a lead appointed party exchange information requirements)	GO1 to GO4
B3, B4, B5, B6 etc.	Information containers that are partially signed off where there are comments from the party being invited to authorise or accept them	PO1 to PO4

Property Name	Unwired	U/FIN - UMT 30 - 0001	Prifysgol Cymru University of Wales	(\$0) UNCONTROLLED ISSUE NOT TO BE USED AS A REFERENCE DOCUMENT CHECK IT AT ALL BEFORE QUOTING
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UNIVERSITY OF WALES TRINITY SAINT DAVID

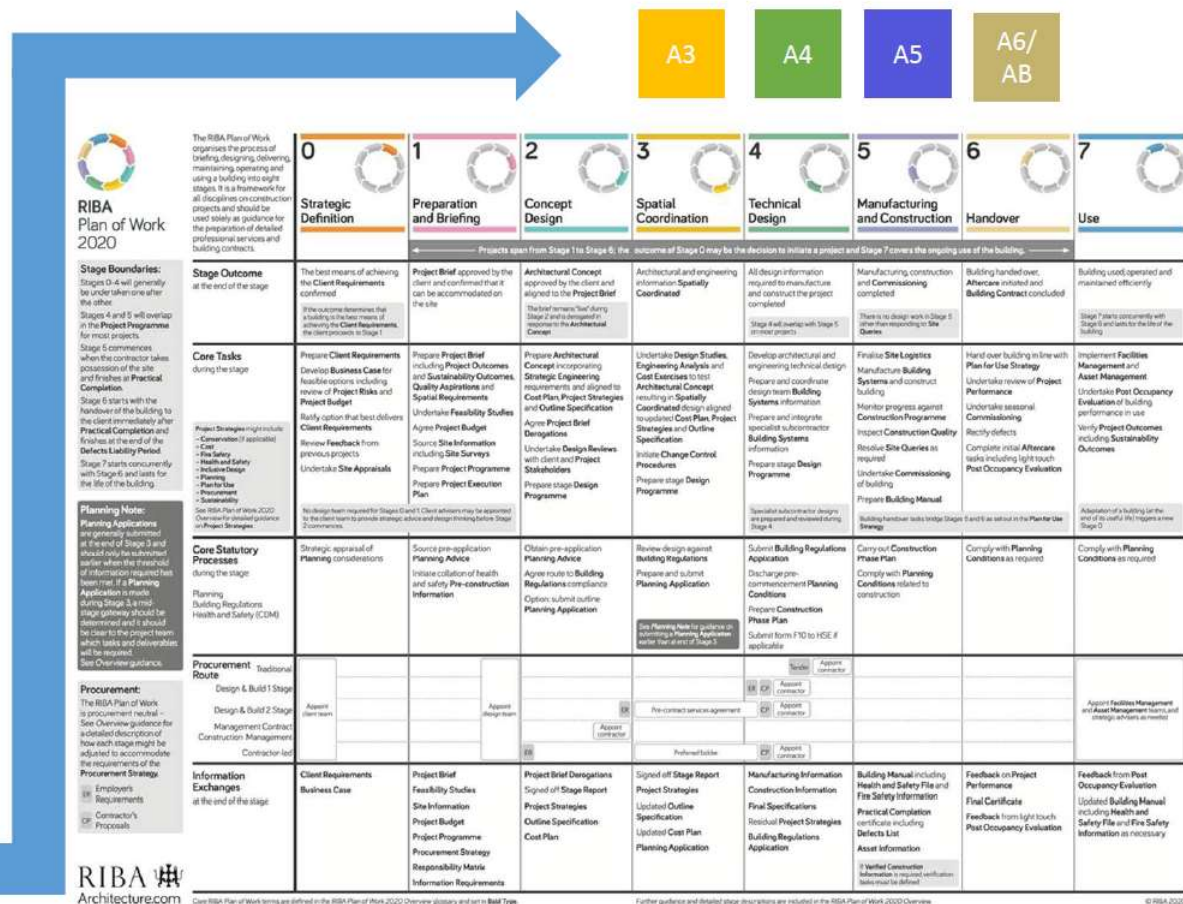
BIM NAMING CONVENTION GUIDE: All files: Models, Drawings & Documents

THE CODE	Project	Originator	Functional Breakdown	Spatial Breakdown	Form	Discipline	Number	Description*	Status*	Revision*
CODE LENGTH	2-6 Characters	3-6 Characters	1-2 Characters	2 Characters	2 Characters	1 Character Only	4 Characters	6-8 Characters	2 Characters	Single Character
DESCRIPTION	A single common project identifier that is recognizably distinct from any individual organization's internal job number.	The company that produced the data.	Use XX as the default. Only use Zones if project requires. This is then defined by the chosen Model segregation. There should be at least one 'zone' per role. EG. Arch Model, Mech Model, Struct Model, etc.	The level the data refers to: ZZ – Multi Level XX – No Level 00 – Ground Flr 01 – First Flr 02 – Second Flr Etc. Mezzanines M1 M2 Etc. All levels below ground floor prefix 'B' B1 B2 Etc.	This is simply the type or form of data eg: For Files: D - Drawing G Diagram I Image L List M Model T Textual V Video/Audio	A Architect / Architectural B Building Surveyor C Civil Engineer D Demolition/Dismantling E Electrical Engineer F Facilities Manager G Ground Engineering H Highways & Transport I Interior Designer K Client L Landscape Architect M Mechanical Engineer Other P Public Health Engineer Q Quantity Surveyor Project Mgmt S Structural Engineer T Planner W Water Engineering X non discipline specific Y Topographical Z Multi Discipline	This is a 4 digit code denoting drawing grouping and number. it consists of a 1 digit Drawing Group plus the 3 digit individual drawing no: Eg. 1001 Where 1 at the beginning is the drawing group and the 3 latter digits are sequential numbers.	Drawing / Model description ie. GAPLAN SITE GEO MOD SECTION SCHEMAT BREEAM FINISHES etc.	This is for the 2 digit suitability code that indicates and governs the development stages of information and documents throughout the BIM process.	The revision number of the drawing. eg: Preliminary revisions and Construction revisions as image opposite
NOTES	Use the 4 digit Company project numerics here - NB. NUMBER ONLY For Student Projects MODULE CODE ie 4005	NB. A specific unique identifier for each organisation should be defined upon them joining the project ie. Use company initials	NB. A more complex project may need to be divided into several diff zones. If so the Zone Strategy should be agreed at beginning of project	IE. Roof plan would be multi level.			Drawings Groups are as follows: 0 - General 1 - Substructure 2 - Superstructure 3 - Openings 4 - Finishes 5 - Piped & ducted services 6 - Electrical 7 - Fixtures & Fittings (Fixed) 8 - Loose Furniture 9 - External Works	There is no specific standard for description but avoid long, unwieldy descriptions as this will affect your ability to file in Windows		
EXAMPLE	4005	UWTSD	XX	ZZ	D	A	1001	GEO MOD	S1	P01

* = Optional add ons within schema that we as UWTSD have chosen to include

NB. There are other optional fields in the schema that we have opted to leave out ie: Classification (uniclass codes)

Status code	Which information containers should the status code be used for?	Revision
Work in Progress (WIP)		
S0	Information containers being developed within a task team	P01.01 to Pnn.nn
Shared (non-contractual)		
S1	Information containers that are suitable for geometrical and/or non-geometrical coordination by other task teams within the delivery team	P01 to Pnn
S2	Information containers that are suitable for information/reference by other task teams within the delivery team	
S3	Information containers that are suitable for review and comment within the delivery team	
S4	Information containers that are suitable for review and comment by the Lead Appointed Party	
S5	Information containers that are suitable for review and comment by the Appointing Party (Client)	
Published (contractual)		
A3, A4, A5, A6 etc. (number correlates with work stage)	Information containers where there are no comments from the party being invited to either: - authorise them (if they are in response to a lead appointed party exchange information requirement) or; - accept them (if they are in response to a client information requirement)	C01 to Cnn
B3, B4, B5, B6 etc. [Deprecated]	Information containers that are partially signed off where there are comments from the party being invited to authorise or accept them	P01 to Pnn



Conventions - Cracking the code

4005 _UWTSD _XX _00 _D _A _0001 _GAPlan _AB

An 'As Built' Ground Floor, General Arrangement plan drawing produced by the architect.

4005 _UWTSD _XX _XX _T _C _0001 _Spec _A5

An NBS Specification published suitable for construction, produced by the Civil Engineer