

# Manual Drafting; is it still relevant?

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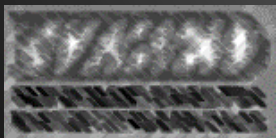


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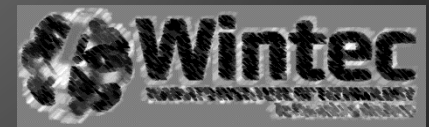


# Summary

As a mini-workshop this session has a focus on delivery of the course DE4103 Technical literacy but is relevant to all courses that may face obsolescence due to changing technology.



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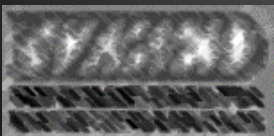
# DE4103 Technical literacy

## AIM:

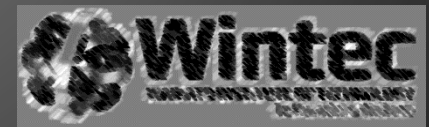
To develop basic technical research skills along with oral, written graphical and interpersonal communication skills.

## INDICATIVE CONTENT:

Principles of drawing office practice; Scales, lines, lettering;  
Geometrical shapes and interpretation; Basic drawing techniques;  
Orthographic projection; Pictorial drawing and sketching;  
Sectional views; Dimensioning principles;  
Drawing document management



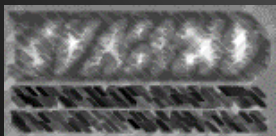
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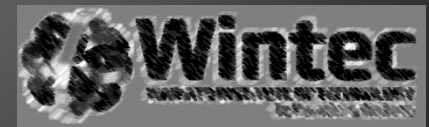
# Learning outcomes

1. Utilise information obtained from physical or web based resources in technical problem solving and presentations.
2. Prepare and deliver an oral presentation on a technical subject.
3. Communicate ideas and technical findings in a written format.
4. Create and use pictorial sketches and pictorial/orthographic drawings to current drawing standards as a communication technique to present ideas and data.
5. Demonstrate interpersonal communication skills to develop project outcomes.

Only learning outcome 4 is applicable to manual drawing, outcomes 1-3 & 5 are covered in the communication component of the technical literacy module.

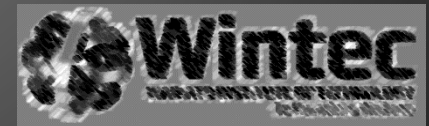
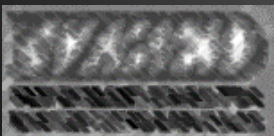


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# Graduate attributes

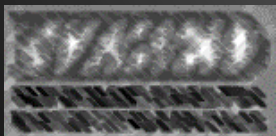
1.	Engineering Knowledge	<input checked="" type="checkbox"/>
2.	Problem Solving	<input type="checkbox"/>
3.	Design /Development of Solutions	<input type="checkbox"/>
4.	Investigation	<input type="checkbox"/>
5.	Modern Tool Usage	<input checked="" type="checkbox"/>
6.	The Engineer and Society	<input type="checkbox"/>
7.	Environment and Sustainability	<input type="checkbox"/>
8.	Ethics	<input type="checkbox"/>
9.	Individual and Team Work	<input checked="" type="checkbox"/>
10.	Communication	<input checked="" type="checkbox"/>
11.	Project Management and Finance	<input type="checkbox"/>
12.	Lifelong Learning	<input checked="" type="checkbox"/>



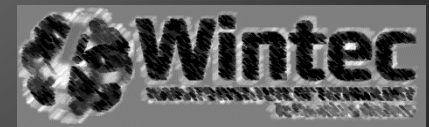
# Task for this session

Considering the following three points of view we will list the positive and negative aspects as they relate to this course;

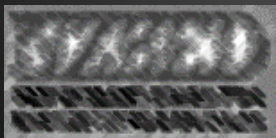
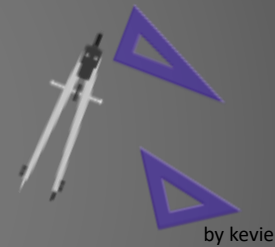
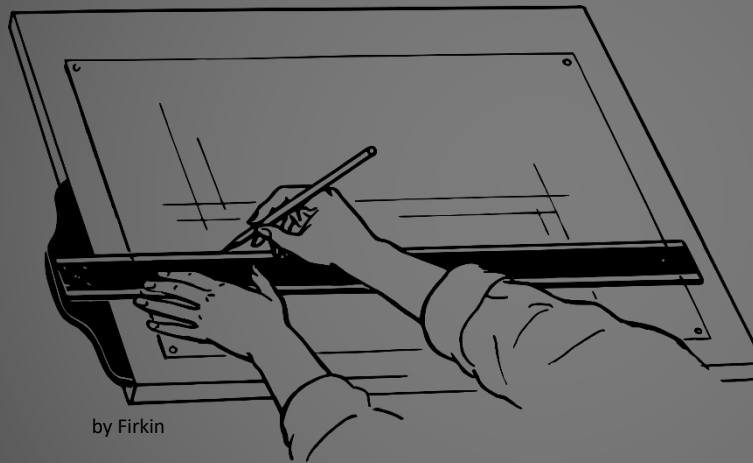
- Manual drafting is the cornerstone of learning graphical design
- Manual drafting techniques are redundant we need CAD skills
- Manual drafting techniques should be purely sketch based



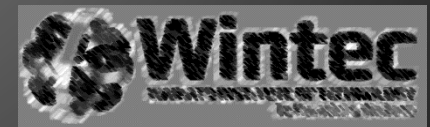
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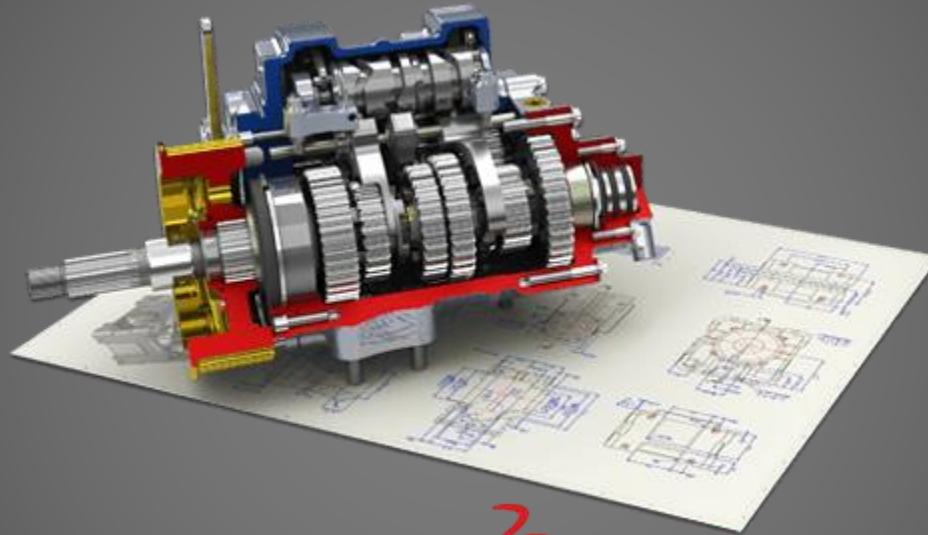
# Manual drafting is the cornerstone of learning graphical design



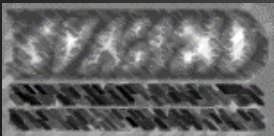
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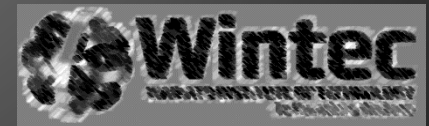
**Manual drafting techniques are  
redundant we need CAD skills**



**3D SOLIDWORKS**

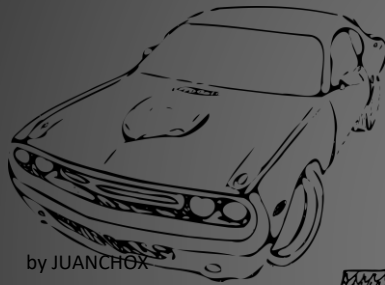


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# Manual drafting techniques should be purely sketch based



by JUANCHOX

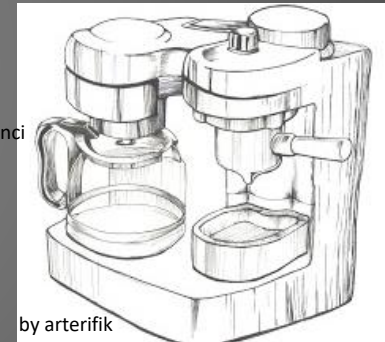


by Firkin

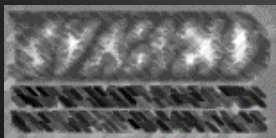


by Leonardo Da Vinci

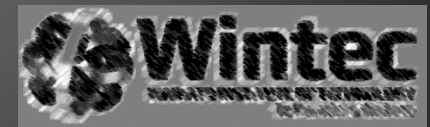
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by arterifik



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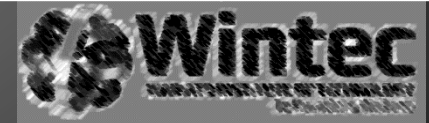
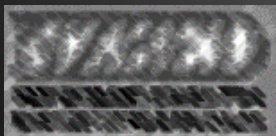


# Drafting

# CAD

# Sketching

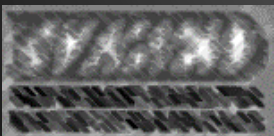
Positive	Negative	Positive	Negative	Positive	Negative
Historical content widely available	Outdated for industry	Widely used industry	Computer literacy required	Small equipment required	Limited by learners perception of artistic skill
Kinesthetic aspect suits engineers	Requires boards and instruments	Current technology increasing in future	Computing resource high	Can be done anywhere	
Does not require computer literacy	Student/ tutor ratio limits class size	Can be done in any environment	So many different software	More reflective of learners creativity	
Learn geometrical processes		Huge online resource		STEM enhanced by art to make STEAM	
		Attractive to students		Gender neutral	



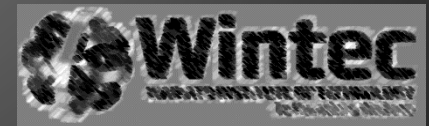
# Conclusion

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# Thank you.

A report of session outcomes will be made available  
after the forum online or by email from

[paul.ewart@wintec.ac.nz](mailto:paul.ewart@wintec.ac.nz)



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