



Principles of Engineering

Space Technology

COMPUTER AUTOMATED DESIGN

AGENDA

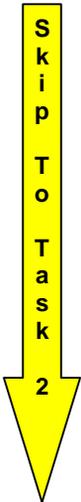
Area **Competency**
B. **Computer Automated Design (CAD)**

<u>Task</u>	<u>Task/Skill</u>	<u>Started</u> mm/dd/yy	<u>Completed</u> mm/dd/yy
1.	Introduction Computer Animated Design (CAD)	(/ /)	(/ /)

When you've completed this module you will have a foundation of CAD skills on which to build upon. You'll be familiar with the CAD interface used in this course and basic commands to draw 2D, 3D Wire Frame, and Solids models. You'll also know how to add important details to drawings making it possible to construct or fabricate from a set of plans. The exams will test your knowledge of CAD technology and your skills with computer automated design.



<u>Sub</u>	<u>Init</u>	<u>Time</u>	<u>Type of Task</u>	<u>Task Description</u>
a.	()	5 Min	Reading Source: Introduction	CAD
b.	()	5 Min	Pre-Test Source: Pre-Test	CAD
c.	()	15 Min	Reading Source: Material	CAD



d.	()	45 Min	Homework Source: http://www.delta7studios.com/dl.htm	Model - Mercury
e.	()	25 Min	Notes Source: Log	CAD
f.	()	5 Min	Exercise Source: Review	CAD
g.	()	30 Min	Practicum Source: Practicum	CAD - Space Capsule
h.	()	5 Min	Check	Notebook Review



i. () 15 Min Exam Source: Exam CAD



Task Task/Skill
 2 2D Drawing

Started Completed
mm/dd/yy mm/dd/yy
 (/ /) (/ /)

When you're finished with this task, you will demonstrate how to create a series of two-dimensional (2D) drawings. You'll create a 2D seed file from which all your 2D designs will be drawn. You'll also use basic geometry to create 2D models. Adding details to your drawings, you'll identify your work with text.



<u>Sub</u>	<u>Init</u>	<u>Time</u>	<u>Type of Task</u>	<u>Task Description</u>
a.	()	10 Min	Exercise Source: Assignments Unit: Exercise 1	2D Seed Drawing
b.	()	15 Min	Exercise Source: Assignments Unit: Exercise 2	Hex Nut
c.	()	45 Min	Exercise Source: Assignments Unit: Exercise 3	2D Drawing

Task Task/Skill
 3 2D Detail Drawing

Started Completed
mm/dd/yy mm/dd/yy
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Once you have completed this task you'll demonstrate how to create a 2D orthographic detail drawing. During this process, you will create and edit lines, circles, fillets, and temporary construction lines. You will also demonstrate different methods of drawing visible and hidden lines, as well as, trim and edit existing lines. You'll place your drawings within a completed title block.

<u>Sub</u>	<u>Init</u>	<u>Time</u>	<u>Type of Task</u>	<u>Task Description</u>
a.	()	15 Min	Exercise Source: Assignments Unit: Exercise 4	The Pillow Block
b.	()	15 Min	Exercise	Border / Title Block

Source: Assignments
Unit: Exercise 5

c. () **30 Min** **Exercise** **2D Detail Drawing**
Source: Assignments
Unit: Exercise 6

<u>Task</u>	<u>Task/Skill</u>	<u>Started</u>	<u>Completed</u>
4	3D Wire-Frame Drawing	<u>mm/dd/yy</u>	<u>mm/dd/yy</u>
		(/ /)	(/ /)

When you're finished with this task, you will demonstrate how to create a series of three-dimensional (3D) drawings. You'll create a 3D seed file from which all your 3D designs will be drawn. You'll transform geometry to create 3D wire frame models. Adding details to your drawings, you'll dimension your work and place it within a completed title block.

<u>Sub</u>	<u>Init</u>	<u>Time</u>	<u>Type of Task</u>	<u>Task Description</u>
a.	()	Min	Exercise Source: Assignments Unit: Exercise 7	3D Seed File
b.	()	Min	Exercise Source: Assignments Unit: Exercise 8	Dove Block
c.	()	Min	Exercise Source: Assignments Unit: Exercise 9	3D Wire-Frame

<u>Task</u>	<u>Task/Skill</u>	<u>Started</u>	<u>Completed</u>
5	Solids Modeling	<u>mm/dd/yy</u>	<u>mm/dd/yy</u>
		(/ /)	(/ /)

Once you are finished with this task, you will demonstrate how to create a series of three-dimensional (3D) solid models. You'll create and modify blocks, cones, cylinders, spheres, and toroids as you create your designs. Using boolean operations, you'll demonstrate how to combine, separate, and slice solid objects. You'll use the solids modeling technique to create a drawing from a physical object.

<u>Sub</u>	<u>Init</u>	<u>Time</u>	<u>Type of Task</u>	<u>Task Description</u>
a.	()	Min	Exercise Source: Assignments Unit: Exercise 10	Blocks

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|-----------|-----|------------|---|-------------------------|
| b. | () | Min | Exercise
Source: Assignments
Unit: Exercise 11 | Cylinders |
| c. | () | Min | Exercise
Source: Assignments
Unit: Exercise 12 | Cones / Pyramids |
| d. | () | Min | Exercise
Source: Assignments
Unit: Exercise 13 | Spheres / Torus |
| e. | () | Min | Exercise
Source: Assignments
Unit: Exercise 14 | Editing Solids |
| f. | () | Min | Exercise
Source: Assignments
Unit: Exercise 15 | Solids Modeling |

