

ELearning ONSHAPE LESSON PLAN

1st - Go To:

https://cad.onshape.com/signup2?basicdataid=882c39dc-b273-4a58-a8f4-38562f02001a&extendeddataid=e49c85b6-e574-4303-a137-259ac45146a1&enable_cookie=check&locale=en_US&approveUser=yes&planid=EDU_YEARLY

and create an account for ONSHAPE

2nd - Go To:

<https://learn.onshape.com/catalog?labels=%5B%22Self-Paced%20Courses%22%5D&values=%5B%22All%22%5D>

and work on the two self paced courses: Introduction To Sketching and then Part Design Using Part Studio.

READ ALL OF THE INSTRUCTIONS: Student example are shown at the end of the document.

PART #1: Introduction to Sketching

(2-4 DAY ACTIVITY)

1. Start sketching
 - a. Starting a sketch
2. Creating sketch entities
 - a. Lines and rectangles

- b. Circles and arcs
- c. Construction geometry
- d. Slot
- e. Polygons
- 3. Sketch constraints
 - a. Using constraints in Onshape
 - b. Constraints: coincident, horizontal, vertical and equal
 - c. Constraints: concentric, tangent, parallel, perpendicular and midpoint
 - d. Dimensions
- 4. Complete a sketch
 - a. Exercise: Basic sketching
 - i. TAKE A SCREENSHOT OF THE FOLLOWING
 - 1. YOUR RESPONSE
 - 2. IF IT WAS CORRECT OR NOT
 - 3. YOUR WORK
 - 5. Sketch tools
 - a. Sketch trim
 - b. Extend and split
 - c. Additional sketch tools
 - d. Sketch points
 - e. Sketch text
 - f. Use
 - g. Exercise: Intermediate sketching
 - h. BEGIN SELF-CHECK
 - i. TAKE A SCREENSHOT OF THE FOLLOWING
 - 1. YOUR RESPONSE
 - 2. IF IT WAS CORRECT OR NOT
 - 3. YOUR WORK
 - 6. Once you exit the course this will bring you back to the “My Training Dashboard”

- a. You will see a window that is titled “Activity”. Maximize that window and then select the drop-down window under “Introduction to sketching” take a screenshot of the entire page (with your user name being shown in the top right corner).
- b. After taking a screenshot
- c. Open that drawing into a Google Drawing and mark a huge “X” over the image, highlight your name and then sign your name over the “X”.
- d. THE “TOTAL HOURS” WILL NOT UPDATE RIGHT AWAY. YOU WILL NEED TO WAIT UNTIL IT UPDATES TO SEE THE FULL “TOTAL HOURS” IT TOOK YOU. PLEASE TO NOT SUBMIT IF IT SAYS “0.0”.

WHAT AM I SUBMITTING??

- 7 IMAGES ON A GOOGLE DOC ON GOOGLE CLASSROOM
- Exercise: Basic sketching
- 3 images
- Exercise: Intermediate sketching
- 3 images
- “My Training Dashboard”
- 1 image
- ONCE AGAIN, IF THE “TOTAL HOURS” SAYS “0.0” WAIT UNTIL IT UPDATES ITSELF BEFORE SUBMITTING

PART #2: Part Design Using Part Studios

(4-6 DAY ACTIVITY)

1. What is a Part Studio?
 - a. Starting a Part
2. Creating Basic Part Features

- a. Extrude
- b. Appearance
- c. Mass Properties
- d. Exercise: Extrude
 - i. TAKE A SCREENSHOT OF THE FOLLOWING
 - 1. YOUR RESPONSE
 - 2. IF IT WAS CORRECT OR NOT
 - 3. YOUR WORK
- e. Revolve
- f. Exercise: Revolve
 - i. TAKE A SCREENSHOT OF THE FOLLOWING
 - 1. YOUR RESPONSE
 - 2. IF IT WAS CORRECT OR NOT
 - 3. YOUR WORK
- g. Sweep
- h. Exercise: Sweep
 - i. TAKE A SCREENSHOT OF THE FOLLOWING
 - 1. YOUR RESPONSE
 - 2. IF IT WAS CORRECT OR NOT
 - 3. YOUR WORK
- i. Loft
- j. Reference Planes
- k. Exercise: Loft
 - i. TAKE A SCREENSHOT OF THE FOLLOWING
 - 1. YOUR RESPONSE
 - 2. IF IT WAS CORRECT OR NOT
 - 3. YOUR WORK
- l. Previewing Feature Generation
- m. Boolean Options

- n. Fillet and Chamfer
- o. Hole Feature
- p. Exercise: Coffee Cup
- i. TAKE A SCREENSHOT OF THE FOLLOWING
 - 1. YOUR RESPONSE
 - 2. IF IT WAS CORRECT OR NOT
 - 3. YOUR WORK
- 3. Creating Patterns and Mirrors in a Part Studio
 - a. Pattern Types
 - b. Circular Pattern
 - c. Linear Pattern
 - d. Mirror
- 4. Creating Draft, Shell, and Rib Features
 - a. Draft
 - b. Exercise: Wheel Rim
- i. TAKE A SCREENSHOT OF THE FOLLOWING
 - 1. YOUR RESPONSE
 - 2. IF IT WAS CORRECT OR NOT
 - 3. YOUR WORK

PLEASE STOP AFTER THIS AND DO NOT MOVE ONTO THE REMAINDER OF THE COURSE

5. Once you exit the course this will bring you back to the "My Training Dashboard"

a. You will see a window that is titled "Activity". Maximize that window and then select the drop-down window under "Introduction to sketching" take a screenshot of the entire page (with your user name being shown in the top right corner).

b. After taking a screenshot

c. Open that drawing into a Google Drawing and mark a huge “X” over the image, highlight your name and then sign your name over the “X”.

d. THE “TOTAL HOURS” WILL NOT UPDATE RIGHT AWAY. YOU WILL NEED TO WAIT UNTIL IT UPDATES TO SEE THE FULL “TOTAL HOURS” IT TOOK YOU. PLEASE TO NOT SUBMIT IF IT SAYS “0.0”.

WHAT AM I SUBMITTING??

- 19 IMAGES ON A GOOGLE DOC ON GOOGLE CLASSROOM
- Exercise: Extrude
- 3 images
- Exercise: Revolve
- 3 images
- Exercise: Sweep
- 3 images
- Exercise: Loft
- 3 images
- Exercise: Coffee Cup
- 3 images
- Exercise: Wheel Rim
- 3 images
- “My Training Dashboard”
- 1 image
- ONCE AGAIN, IF THE “TOTAL HOURS” SAYS “0.0” WAIT UNTIL IT UPDATES ITSELF BEFORE SUBMITTING