Learning Objective
After completing this exercise, you will be able to identify major muscles of the Thorax as well as identify major organs, blood vessels and nerves.

1 Start by setting the screen view:
   • Select “Classic” from the “Views” drop down menu in the upper-left corner of the screen
   • Reset the dissection by clicking the “Reset” button in the upper-right corner of the screen

1 Set the cross section through the area we want to explore:
   • Drag the reference plane in the dissection area by its blue border to the middle of the chest
     (the cross sections are numbered in the lower left corner, you should be close to 449)
   • Explore the anatomy of the thorax by moving your mouse over the cross section
     (structures are identified at the top of the cross section area)

3 Skin the cadaver to reveal the anatomy below:
   • Select the “Dissect” tool from the toolbar (turns blue when selected)
   • Click on the skin to remove it (now you see the fat and other subcutaneous tissue)
   • Remove the fat just like the skin

3 Take a closer look by magnifying the thorax in the dissection area:
   • Use the “Zoom” control, located in the toolbar below the dissection area, to enlarge the dissection
   • Select the “Move” tool and drag the dissection with your mouse to reposition it
   • Dissect the veins of thorax to clean up the dissection

4 Identify the Pectoralis major muscle by highlighting it:
   • Select the “Index” tab
   • Enter “pectoralis major” into the search box
   • Select the “Pectoralis major - right” from the list
   • Click the “Add & Highlight” button
     (the cross sections are in standard radiologic orientation so the right pectoralis major muscle is highlighted on the left side)

Name the four other muscles that form the thoracic wall:
1. ___________________________ 3. ___________________________
2. ___________________________ 4. ___________________________

5 Isolate the nerves that control the diaphragm by simplifying the dissection:
   • Click the “Clear” button to clear the dissection area
   • Select the “Systems” tab
   • Select “Skeletal system” and click the “Add” button
   • Dissect the bones of the sternum and costal cartilages
   • From the “Regions” tab, expand the “Thorax” using the icon to the left
   • Expand “Peripheral nervous system” section
   • Select the “Phrenic nerve” and click “Add & Highlight”
6 Follow the Phrenic and Vagus nerves as they travel around the heart:
- Set the cross section through the first rib (cross section 339)
- Add and highlight the Vagus nerves (hint: use the index)
- Locate the Phrenic and Vagus nerves in the cross section
- Enlarge the cross section using the zoom control, then drag to center the image with the move tool
- Follow the nerves downward (inferiorly) by holding down the command (Mac) or ctrl (PC) key while pressing the down arrow key to move 1 mm at a time through the cross sections

Move the cross section 1mm at a time by holding the command (Mac) or ctrl (PC) key while pressing the up or down arrow keys

Fill in the blanks:
(Hint: The hilum of the lung consists of the Pulmonary artery and vein and the main bronchus)
1. The Phrenic nerve passes ________________ (direction) to the hilum of the lung.
2. The Vagus nerve passes ________________ (direction) to the hilum of the lung.

7 Visualize a more advanced anatomical concept, the Aortic Arch:
- Click the “Clear” button to clear the dissection
- In the “Systems” tab, Expand the “skeletal system” and add the “Vertebral column”
- Add the heart to the dissection (hint: use the Systems tab)
- Select the “Rotation” tool from the toolbar below the dissection area
- Rotate to a posterolateral view by clicking in the dissection area and dragging the mouse to the left or right

Rotate the dissection using the left or right arrow keys while holding the command (Mac) or ctrl (PC) key
Alternately, use the rotation tool below the dissection area
- Set the cross section through the aorta where it exits the heart (cross section 429)
- Select the “Highlight” tool from the toolbar
- Click on the Ascending Aorta to highlight it
- Follow the ascending aorta superiorly in the cross section until it begins to arch
- Highlight the Aortic arch

Highlight structures or de-highlight a single structure with the highlight tool

Name the three branches of the aortic arch?
(Hint: follow the aorta superiorly until it branches)
1. ____________________________ 2. ____________________________
   3. ____________________________

8 The Vagus nerve revisited:
- From the “Regions” tab expand the “Thorax” and the “Peripheral nervous system”
- Highlight the “Vagus nerve [X]”
- In the cross section, locate the left Vagus nerve and follow it inferiorly as it passes the aortic arch

What branch of the Vagus nerve loops inferior to the aortic arch?
1. ____________________________