**Computer Science 220**

**Assignment 1**

**Due:** See lms.cofc.edu (OAKS)

As stated in the course policies on the syllabus, the due date/time is firm. Do not send your assignment via email. Partial solutions may be given partial credit. Late assignments (up to 168 hours) will be accepted with an automatic 30 point deduction. To submit a late solution, email me at [stalveyr@cofc.edu](mailto:stalveyr@cofc.edu).

**Learning objectives:** Outcomes accessed: 2, 3, and 5.

* Create a Python program on your own.
* Develop a simple Python program that asks for input, does arithmetic, and provides output.

**Assignment:**

Write a solution to the following problem. Store your solution in a file closedShapes.py.

The formulas for calculating the surface area and volume of a closed rectangular prism with a square base are:



Where V is the volume, SA is the surface area, x is the length of any side of the base of the prism, and h is the height of the prism.

The formulas for calculating the surface area and volume of a closed cylinder are:



Where V is the volume, SA is the surface area, r is the radius cylinder and h is the height of the cylinder.

Add the following functions to your file closedShapes.py.

1. Write a function prism() that uses the value of x and h, as input by the user, to calculate and output the volume and surface area of a rectangular prism assuming a square base.
2. Write a function cylinder() that uses the value of r and h, as input by the user, to calculate and output the volume and surface area of a cylinder.
3. Write a main() function that executes both prism() and cylinder().

**File to be submitted:**

**closedShapes.py**

**Submission instructions:**

Log into OAKS. Click on the link to the dropbox for our class. Upload your files into the folder for HW1. **Be sure to press the submit button**.

**Policies:**

PLEASE see the policy.docx on OAKS that explains the policies for this and all assignments. Not adhering to these policies will negatively affect your grade.