

# ECE-C301 Advanced Programming for Engineers

## Laboratory Assignment: Week 2

Name: \_\_\_\_\_

*(30 Points)* Implement a base class called **Person** that is used to derive two subclasses: **Student** and **Instructor**. A **Person** should have a name and year of birth. In addition to maintaining all the attributes of a **Person**, a **Student** should have a major and a GPA, and an **Instructor** should have a salary.

A **Person** should have the accessor methods **getName** and **getBirthYear**; the **Person**'s name and date of birth year should be set in the constructor.

A student should have accessor methods **getMajor** and **getGPA** as well as corresponding mutator methods **setMajor** and **setGPA**; the major and GPA attributes should be optionally settable during construction.<sup>1</sup>

An **Instructor** should have the accessor method **getSalary** and the mutator method **setSalary**; the salary attribute should be optionally settable during construction.

Each class should additionally implement the `__repr__` magic method, which should return a string describing the type of the instance and its current attributes (including those that are inherited).

Write a test program that **imports** your classes and clearly demonstrates that they work properly.

TA Initials \_\_\_\_\_

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<sup>1</sup>Hint: See the function definition for `my_range` from slide 63 of **Deck 3.pdf** (from the ECE-203 Blitz Edition). Also, lookup the Python built-in constant **None** (<https://docs.python.org/2/library/constants.html>).