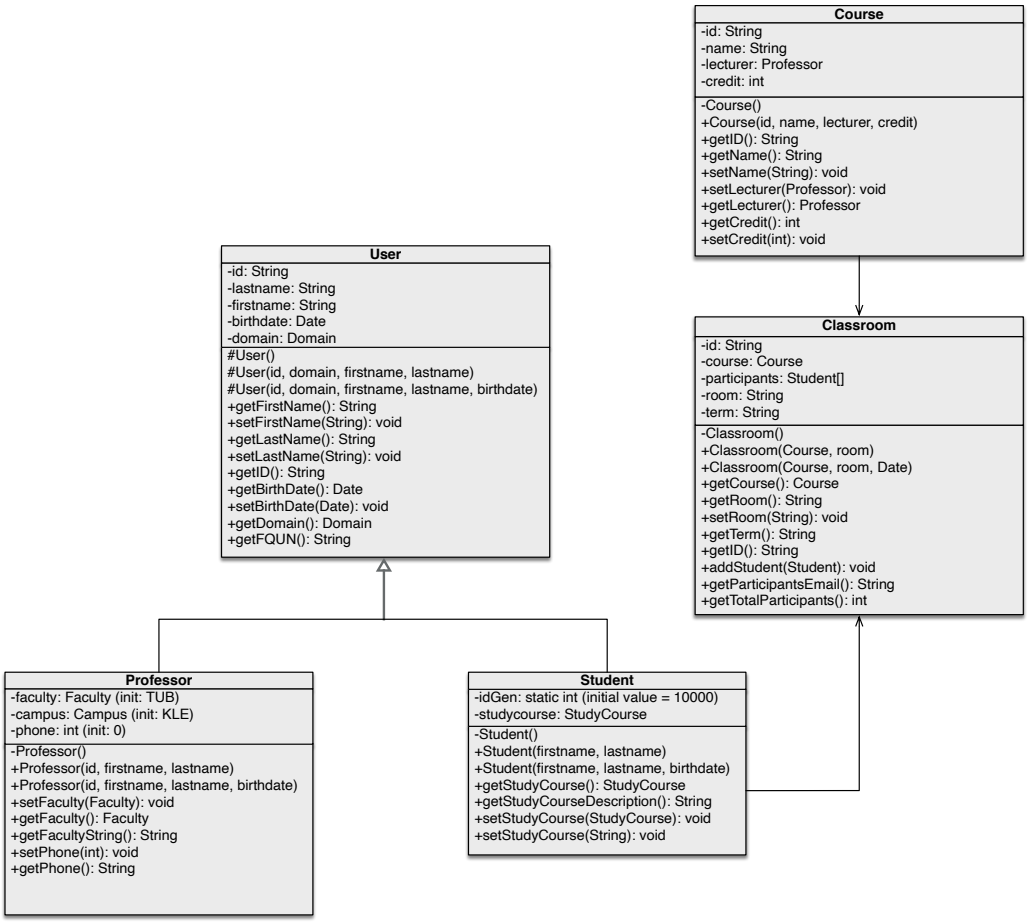
OOP WS2020/21

EXERCISE 5

1. Implement the **Course** class as depicted in the UML diagram below. Write a simple test program for testing the functionality of the Course class.

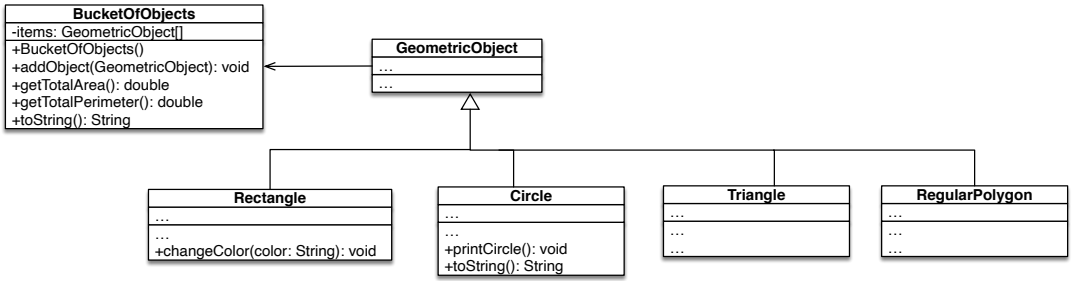


2. Extends the Student and Professor classes from exercise 3 and 4 with Classroom and Course class from question 1 as depicted in the UML diagram above.

   The **id** is automated generated by concatenating the course's id and the term, e.g. "EL-2304-WS2020/21". The term will be autogenerated based on the object creation time or the Date parameter passed to the constructor. The term will be "SSXXXX" (for months between March to September) or "WSXXXX/XY" (for months between October to February) where XXXX is the year and XY the following year in short form. The method getParticipantsEmail() will return all e-mail of the participants in comma separated form, i.e., "xxxxx@student.hsrw, xxxxy@student.hsrw, ... ".

   Write a test program that create a number of students participating in OOP course in this semester. (Hints: don't forget to update the Course enumeration from previous exercise with StudyCourse.

3. Extends the **GeometricObject** class exercise with all related subclasses, please refer to the slide sets for the complete description. Implement the **BucketOfObjects** class as depicted in the UML diagram below. The toString() method will print the type of the objects in the bucket in comma separated form, e.g., “Triangle, Circle, Rectangle”.



Write a test program that create a BucketOfObjects instance that have at least 5 different shapes. Print the total perimeter and area and the content of the bucket.