

**ANKARA UNIVERSITY**  
**Computer Engineering**  
**2018-2019 Fall Semester**  
**COM337 Computer Graphics**  
**Coursework 1**

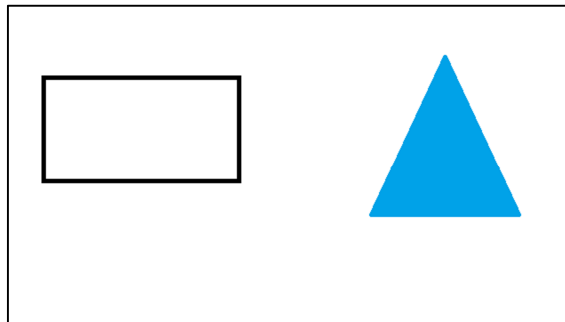
**Important Note:** The students are expected to complete the tasks using shader-based graphics programming approach. Solutions using fixed-function style will be graded zero. This includes solutions that have code segments such as glBegin-g glEnd sections and those that are not using a vertex or a fragment shader.

**Tasks:** Some example simple programs have been discussed in the class and slides on the course web page have information about them. Before attempting the tasks in this coursework, you should understand and be able to run those programs on your computer.

Your task for this coursework is to write a WebGL application (HTML and Javascript codes). Your application should work according to the following descriptions:

1. The canvas size should be 640x360.
2. It should display the following shapes on white background:
  - a. A rectangle on the left which is drawn only with its borders in black.
  - b. A blue triangle on the right.

So, the page should approximately look like the image below.



3. The user should be able to drag the rectangle around and place it in a new position with the mouse.
4. When the user presses the 'T' key on the keyboard, the triangle's color should change to a different color. And this should happen again and again as the user continues to click. You are free to develop your own method to decide the next color.

### **Warning**

Your solutions will be analyzed using code similarity software. Of course you are free to discuss with your friends and research on the web but your code should be your own work. If there is a high level of similarity with other students' solutions, it will be treated as plagiarism. In such a case, Higher Education Council (YÖK) regulations will be strictly applied.

### **Deadline and Submission**

You should complete your work until **October 31**. There will be another announcement on the course web page until that time explaining submission and demo organization.