**CISC 3620: Computer Graphics**
**Section TR2**
**Tuesday and Thursday 2:15 PM – 3:30 PM**
**Room: IA-525**

**Instructor:** Amara Auguste
**Email:** Amara.Auguste@brooklyn.cuny.edu
**Webpage:** https://amaraauguste.github.io/
**Office Hours:** Thursdays from 1:00 PM - 2:00 PM, Room: IA-128

**Course Webpage:** https://amaraauguste.github.io/courses/cisc3620.html

**Course Description**

Fundamentals of computer graphics programming. Graphics hardware and software standards. 2D geometric primitives and raster images. 3D object representations. Data structures, algorithms, and the graphics pipeline. Graphical user interfaces. Underlying concepts in computer graphics systems, including games, animation, modeling, rendering, and paint systems.

**Attendance**

Classes will meet on **Tuesdays and Thursdays from 2:15 PM to 3:30 PM.**

**Attending class is mandatory and attendance will be taken at the beginning of every meeting.**

This rule does not apply to absences due to religious observances, as described on page 72 of the Undergraduate Bulletin.

**Textbook**

- J. Dirksen. *Learn Three.js: Programming 3D Animations And Visualizations For The Web With HTML5 And WebGL*, 3rd Edition. Packt Publishing, 2018. ISBN: 978-1788833288

Although not required, the following texts are **highly encouraged**:

- P. Shirley and S. Marschner. *Fundamentals of Computer Graphics*, 4th Edition. CRC Press, 2015. ISBN: 978-1482229394
- F. Dunn and I. Parberry. *3D Math Primer for Graphics and Game Development*, 2nd Edition. CRC Press, 2011. ISBN: 978-1568817231
- E. Angel and D. Shreiner. Interactive Computer Graphics With WebGL, 8th Edition. Pearson, 2020. ISBN: 978-0135217160

**Topics**

1. Canvas drawing
2. WebGL, Three.js
3. User controls and color
4. HLS and triangle interpolation
5. Instance transforms, Composite objects, Nested transforms
6. Cameras
7. Materials and lighting
8. Texture mapping
9. Animation
10. Bezier surfaces, Lathe, Extrude, Tube geometries
11. Interaction
12. Transparency and text
13. Shadows and anti-aliasing
14. Blowing cloth, sprites, points

**Grading Policy**

Students will receive a letter grade for the course according to the following score distribution established by CUNY:

| <60 | 60-62 | 63-66 | 67-69 | 70-72 | 73-76 | 77-79 | 80-82 | 83-86 | 87-89 | 90-92 | 93+ |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----|
| F | D- | D | D+ | C- | C | C+ | B- | B | B+ | A- | A |

A grade of A+ will be granted for numerical grades of 97 or higher after all extra credit points you received are applied to the grade.

The course will be broken down into the following:

| | |
|---|---|
| Participation / attendance | 10% |
| Homeworks (x6) | 5% |
| Midterm | 30% |
| Final exam | 30% |

**Homework/Assignments**

Every student must create a CodePen account to complete their assignments.

You will have six assignments during the semester that cover the topics we've discussed in class, from the textbook, or found online. **For each assignment, please create a new Pen on CodePen and then submit the link to that Pen via Brightspace.**

**Please turn in your assignment link at least 30 minutes before the start of class. If you submit an assignment late, you will lose 10% every day it is late.**

For example, if you turn in an assignment that would have received a grade of 90%, but it's one day and one hour late, your score will drop to 70%.

Brooklyn College Bereavement Policy

Students who experience the death of a loved one should refer to:

http://www.brooklyn.cuny.edu/web/about/initiatives/policies/bereavement.php

Brooklyn College Disability Policy

*In order to receive disability-related academic accommodations students must first be registered with the Center for Student Disability Services. Students who have a documented disability or suspect they may have a disability are invited to set up an appointment with the Director of the Center for Student Disability Services, Ms. Valerie Stewart-Lovell at 718-951-5538. If you have already registered with the Center for Student Disability Services please provide your professor with the course accommodation form and discuss your specific accommodation with him/her.*

CUNY Policy on Academic Integrity

"Academic Dishonesty is prohibited in the City University of New York and is punishable by penalties, including failing grades, suspension, and expulsion, as provided herein."
-- CUNY Policy on Academic Integrity
-- Adopted by the Board of Trustees 6/28/2004

Please go to http://www.brooklyn.cuny.edu/bc/policies/ for further information about: · CUNY Policy on Academic Integrity
· BC Procedures for Implementing the CUNY Policy on Academic Integrity · Flow Chart of the BC Procedures for Implementing the CUNY Policy on Academic Integrity.