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| Description: Description: Logo | Bangladesh Army University of Science and Technology (BAUST) |
| Department of Computer Science and Engineering |

**CSE 4211 Computer Graphics**

**Subject Outline**

Course Code : CSE 4211

Name : Computer Graphics

Stage : Level-4, Term-II

Duration : Three hours per week for 14 weeks

Credit : 3.0

**Subject Introduction:**

Standard graphics primitives; Graphics hardware; Graphics pipeline; Coordinate convention; Scan

conversion; Clipping; Modeling transformation; Viewing transformation; Projection transformation;

Polygons and polygon meshes; Curves and surfaces; Hidden lines and surface removal; Fractals; Ray tracing; Light models; Color models; Graphics programming

**Course Objectives:**

The objective of the course is to familiarize students with computer graphics as well as how to use those in real life applications.

**Course Outcomes:**

At the completion of this course the student will be able to:

1. Understand and firm grasp of the basic term of computer graphics.

2. Know about the real world use case scenarios and learn how to use those techniques.

3. Use the knowledge to model real world object and data.

4. Learning to program the knowledge earned from studying.

## Teaching Methods:

Lectures 42 hours at a term within 14 weeks

## Assessment:

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| Attendance: | 15 |
| Observation | 15 |
| Assignment /Class Test: | 60 |
| Written Examination: | 210 |

## Text books:

1. Computer Graphics by Hearn & Baker

## Reference Books:

1. Computer Graphics Principle and Practice --James D Foley, Van Dam

2. Computer Graphics Using Open GL –F S Hill J R

3. OpenGL programming Guide-(Official guide to learning openly)

**Convener**

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**CLASS SCHEDULE (Tentative)**

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| Week No | Class Activity | Assessment |
| 1 | Standard graphics primitives |  |
| 2 | Graphics hardware |  |
| 3 | Graphics pipeline | **CT1** |
| 4 | Coordinate convention, Scan Conversion |  |
| 5 | Clipping |  |
| 6 | Modeling transformation | **CT2** |
| 7 | Viewing transformation, Projection transformation; |  |
|  | Midterm Break |  |
| 8 | Polygons and polygon meshes |  |
| 9 | Curves and surfaces, Hidden lines and surface removal |  |
| 10 | Fractals | **CT3** |
| 11 | Ray tracing |  |
| 12 | Light models, Color models |  |
| 13 | Graphics programming | **CT4** |
| 14 | Review |  |