

CPT205 – Computer Graphics (2025-26)

Assessment 1 – 2D Modelling Project

Assessment number	1
Contribution to overall module assessment	15%
Date on which assessment given	Tuesday, 23 September 2025
Submission deadline	Sunday, 2 November 2025

1. Learning Outcomes for this Assessment

This assessment aims at assessing your understanding of the topics and your knowledge of the theory and methods by applying the techniques / algorithms covered to date in the lecture and lab sessions. It will assess learning outcomes A, C and D stated in the module handbook through practical work in the 2D space.

2. The Task

You are required to create a **2-Dimensional Greeting Card for the 20th anniversary of XJTLU**. Your card may contain balloons, flowers, trees, smiling faces, lights, stars, clouds, sky, ground, buildings, greeting texts and other objects that may appear in a physical card of this kind. It should consist of both still and animated objects where appropriate, showing some **context of XJTLU**. Keyboard and mouse interactions should be used to trigger the actions or display of your card in stages. An objective of the assignment is to make good use of the graphics techniques and OpenGL freeglut functions. In particular, you should consider the following in completing this assignment:

- proper configuration and use of the MS VC++ and OpenGL freeglut environments as for the lab work, using only the **freeglut** library (other OpenGL libraries are not allowed for this assessment);
- good visual effect of your card utilising the full range of the techniques covered to date in the module (e.g., creation of geometry, transformations, viewing, animation and interactions via the mouse and keyboard; no requirements to directly utilise geometric creation algorithms such as DDA or parametric curves/surfaces);
- effective use of relevant OpenGL freeglut APIs;
- good programming practice (e.g., necessary comments and neat format of coding).

3. The Written Report

You are required to produce a report of no more than 5 A4 sides that

- shows basic information – module code and title, your name, ID and degree programme on the first page;
- briefly describes the design and lists the features of your card (relating to graphics techniques used but not explaining your code in detail);
- provides a brief instruction (readme) section about how your program can be run effectively (e.g., interactive commands with the mouse and keyboard);
- contains a set of typical screenshots to show your program in action.

4. Submission of Work

- Compress your **written report, source code (.cpp), and executable (.exe)** (**not** the whole MS VS solution/project which can have a very large file size) into **a single zip/rar file**. Name your zip/rar file in the following way: YourID_Surnamae_GivenName (e.g., **2298765_Yue_Yong**).

In VS 2022, right click on your project name and then “Open Folder in File Explorer”; in the explorer, under the folder of your project name, go to “x64” and then “debug” where you will **find your .exe file**; go the sub-folder of your project name, you will **find your source code (.cpp) file**.

- Submit your zip/rar file on the Learning Mall Core module site, by **Sunday, 2 November 2025**.

Late submission will receive penalty in the marking in accordance with the University Code of Practice on Assessment. For each working day after the deadline, 5 marks (out of 100) will be deducted for up to 5 working days. However, the mark will not be reduced below the pass mark for the assessment. Work assessed below the pass mark will not be penalised for late submission of up to five days. Work received more than 5 working days after the deadline will receive a mark of 0.

5. Backup and Academic Offences

Backup your work. As good practice, you should always make sure that your work is securely backed up.

This assignment is individual work. **Plagiarism** (e.g., misrepresenting another's work or concept without proper acknowledgement and citation of the sources) and **collusion** (unauthorised collaboration or co-operation with others in the preparation and production of assessment work) are serious academic offences. **Academic offences** will be dealt with in accordance with the University Code of Practice on Assessment.

6. Guidance to Marking

Students may be required to attend an interview to explain their work if deemed necessary for effective assessment of their submission.

In the following table, each category builds on the requirements contained in the preceding category for assessment.

Category	Requirement
First Class (≥70%)	Overall outstanding work. Very neat program implements effectively all the graphics techniques covered to date. Card produced with realistic / real-life content and visual effect. Well-structured and concise written report providing all the required information.
Second Upper (60 to 69%)	Comprehensive program that utilises effectively the full range of the graphics techniques covered to date. Good commenting and layout of the program. An impressive Card produced with a good range of features achieved by calling appropriate OpenGL functions. A comprehensive and clear report containing all required information within the page limit.
Second Lower (50 to 59%)	Substantial working program implements a good range of graphics techniques (amongst geometry, transformations, interactions and animation). Nice layout and objects created in the Card. Written report contains all the information of the features and functions of the program including a set of proper screenshots.
Third (40 to 49%)	Working program that generates a recognisable Card with some objects and a limited range of the graphics techniques utilised. Written report describes all the basic information for the work completed and provides a good overview with some screenshots.
Fail (0 to 39%)	Some code produced attempting to the use of some graphics techniques covered in the module to date. No or very limited artefact produced. Written report covers very limited number of the items required in the assignment brief, acknowledging properly sources used if any.
Non-submission	A mark of 0 will be awarded.