

**SOFTWARE ENGINEERING**

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**SCHOOL: SCHOOL OF INFORMATION SCIENCES AND TECHNOLOGY**

**PART: 2.2**

**COURSE: TEC**

**COURSE CODE: TEC401**

**LECTURER: MR. MACHIWENYIKA**

**ASSIGNMENT No: 1**

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| Outcome Based Curriculum | Competence Based Curriculum | Content Based Curriculum |
| This outlines specific and measureable outcomes of a learning discipline. Focuses on what students can do after they are taught. | Focuses on the skills, personality and character of the students after learning a discipline. Looks at the outcomes of the learning process. | Focuses on objectives of what the students should know and are outlined at the beginning of the course subject area. |
| This is learner centred but also integrates lecturer centred activities. The lecturer facilitates the learning of the students but the students are mainly the ones that are responsible for their own learning. | Learner centred. Students facilitate their own leaning and master a skill at their own pace based on how well they understand the topic under study. | This is lecturer centred as the lecturer is the one who directs learning activities and is the only source of new knowledge to students. |
| Active learning  Students are well versed into their studies and they go an extra mile to acquire skills relative to their field. There is more activity. Teachers also give tasks to the students. | Integrated learning  It is both passive and active at the same time. Students choose what they want to do. Some students are lazy and may tend to be passive while others may choose to be active in their learning activities. | Passive learning  Students will only listen to what the lecturer has to say without doing anything. |

1. Chosen course: Computer Graphics

Entry Requirements

To be able to easily grasp concepts and learn Computer Graphics, the student should have prior knowledge of mathematics, graphs, coding and geometrical transformations. These stated requirements will make sure that the student is not confused by certain terms that are used in the course. Simple linear algebra is also a prerequisite.

Course Justification

Computer Graphics is the science and art of communicating visually via a computer’s

display and its interaction devices. The study of Computer Graphics enables the creation of animations on devices for educational purposes. The study of Computer Graphics makes it possible to acquire skills for creating simulations and the designing of Graphical User Interfaces.

Programme Aims

Software engineering’s aim is the development of reliable and efficient software. Software engineering also aims at the clarification and fluidity of development. It also aims to develop high-end programming environments, tools and architectures.

Course Goals

* Develop interactive graphical applications using web-based technologies
* Develop graphics programs using different graphics APIs.
* Use coordinate systems and transformations to model objects hierarchically and prepare them for viewing
* Use appearance modeling techniques (surface shading, texture and lighting) to create object appearance

Objectives

The objectives of Computer Graphics:

* To make pictures with computers
* To understand a typical graphics pipeline
* To use openGL to create interactive computer graphics
* To understand basic concepts of computer graphics

Methodology

Lectures will be one of the methods used to disseminate information to students. Lab sessions will be very vital in ensuring that students acquire the necessary practical skills to create simulations and designing interactive computer graphics. Researches, presentations and group work exercises are the other methods used.

Assessment Criteria

Students will be assessed on the skills they would have grasped through practical tests and also theoretical tests. A final examination will be given at the end of the course to determine whether the student has grasped the concepts taught.

Material requirements

A laptop with openGL and an IDE installed e.g. Visual Studio.



Software Engineering

It enables students to have the ability to solve software problems as they arise

Computer Science

The study of programming languages and problem solving in comport science promotes critical conscientiousness.

Polymer Technology

Saving of energy and improving renewable energy technologies

Information and Security Assurance

The protection of electronic devices from hacking and malware through the use of firewalls

E-Commerce

Increase in e-commerce will reduce inflation rate

REFERENCES

1. Content-Based-Curriculum-for-High-Ability-Learners-by-Joyce-Tassal
2. [www.uopeople.edu/blog/competency-based-education/](http://www.uopeople.edu/blog/competency-based-education/)
3. <https://www.rasmussen.edu/.../college-life/what-is-competency-based-education/>
4. ctlrdc.ca/curriculum-design-pedagogy/outcomes-based-education/