Kursus modul beskrivelse

Oplysninger om modulet
Titel: Programmering af interaktive 3D verdener
Type: Kursus modul
Undervisningssprog: Engelsk
Undervisningssted: Campus København

ECTS point: 5 ECTS

Periode: 1. september 2022 – 31. januar 2023

Placering
3. semester, B.Sc. i Medialogi

Modulkoordinator og sekretariatsdækning
Henrique Galvan Debarba (koordinator), Elsebeth Andersen (sekretær)

Fagligt indhold og sammenhæng med øvrige moduler/semestre
Den formelle beskrivelse af modulet findes i studieordningen:

https://moduler.aau.dk/course/2022-2023/MSNMEDB3213C?lang=da-DK

The purpose of the module is to introduce the student to the programming of 3D virtual worlds with interactive and animated elements that can be navigated by the users.

Mål
Students who complete the module will obtain:
- Understanding of transformations of vectors and points between coordinate systems
- knowledge of different representations (including matrices and quaternions) of transformations (eg translation, rotation and scaling)
- understanding of hierarchical modeling of 3D virtual objects and scenes

Students who complete the module will be able to:
- create 3D virtual worlds that can be navigated by users with an interactive virtual camera
- program transformations and animations of 3D virtual objects, including linear motion and rotation around a point
- program collision detection between virtual objects, and responses to these collisions
- integrate 2D user interfaces into 3D virtual worlds
- create navigable 3D virtual worlds with the possibility of interactions

Omfang og forventet arbejdsindsats
Lecture and preparation for lectures: 1.5 ECTS
Class exercises and assignments: 2.5 ECTS
Exam and preparation for exam: 1 ECTS

Deltagerforudsætninger
Deltagerforudsætninger er beskrevet i modulbeskrivelsen (se link ovenover).

Eksamen
- Modality and duration: Individual 2-hour written exam under invigilation
- Assessment: In accordance with the 7-point grading scale
- Pre-approved aids: basic pocket calculator, any printed material; electronic notes, class readings, and class slides in PDF, MS Word or MS Powerpoint (or similar file formats); software that do not need internet access to function (Unity, code editor, visual studio, PDF reader, calculator).
- Internet access policy: No internet access, you are only allowed to access the digital exam and the exam page on moodle. Some programs will access the internet for e.g. verify your software license, trying to update, install extensions, etc. That is fine, what you are not allowed to do is to make explicit

use the internet. E.g. you are not allowed to follow links, watch videos on youtube, search for information online, etc …
- Prerequisites for participation: Timely hand-in of required assignments
- Further detail on the exam: The exam focuses on the concepts and the theory taught in the course and how they can be applied in interactive 3D applications.