Year 10

Syllabus

Version 2

June 2019

Contents

Learning Outcomes

LO	Level 3	Level 2	Level 1
1	Modify primitives by joining methods and create a complex **3D model** using various textures.	Create a model using various primitives to make up a new model and use multiple textures	Open the application and create one primitive and apply a texture.
2	Create and edit an existing **sound** wave in a new innovative manner and export it in MP3 format.	Recognise peaks and different sections of a soundwave. Apply noise reduction effects on a recorded sound clip.	Open the application, open a sound file and modify it and save it.
3	Autonomously **research** and make a presentation of multiple slides on the effect of the **digital divide**.	Independently create a presentation on the digital divide with multiple slides.	Create a simple presentation on basics of lack of resources with supervision.
4,5	Autonomously **research** and make a presentation of multiple slides on the effect of **AI and humans**.	Independently create a presentation on AI with multiple slides	Create a simple presentation on AI with supervision.
6	The student must show understanding of the impact of **robots** on the **human** workforce.	Participate in the discussion and mention points regarding Robotics.	Participate in the discussion with prompting.

Topics and Leaning Outcomes in C3.4

Topics	LO	
3D Modelling	1	I can create a 3D-model using open source software, e.g. Google Sketchup^{TM} which will include: The modification of primitives; The combination and subtraction of two primitives; The application of materials.
Sound Editing	2	Abiding to data protection and copyright laws I can use an open source sound editing application e.g. Audacity to perform the following tasks: Read a sound wave, apply an effect on a soundwave to reduce noise, cut pieces of a sound wave to create a new sound wave.
Digital Divide	3	I can present ways how to reduce the digital divide e.g. reducing information poverty, create awareness about information censorship and provide global access to resources.
Robotics and AI	4	I can demonstrate in any chosen medium the shifting characteristics of Robotics and AI (Artificial Intelligence) in the film industry throughout time.
	5	I can discuss the implications on humanity and the future career landscape with the advancement of AI (Artificial Intelligence) and Advanced Intelligent Systems.
	6	I can ethically consider the role of robots in society and the impact on the human workforce.

Coursework 1: Create a 3D model

Coursework 2: Edit a Sound file

1. 3D Modelling

1. I can create a 3D-model using open source software, e.g. Sketchup^{TM} which will include: The modification of primitives; The combination and subtraction of two primitives; The application of materials.

Topics to be covered /Skill Set	Sub-topics
Open the application and create one primitive and apply a texture.	Change model Length Units to: mm, cm, m. Use shape tools to draw: rectangle, circle. Change camera views: Standard Views, Orbit, Pan, Zoom, Zoom Extents. Use Undo/Redo. Use Select tool. Use Push/Pull tool to create 3D object: box, cylinder. Use the Paint tool to apply: colour, texture.
Create a model using various primitives to make up a new model and use multiple textures	Use Line tool. Use Erase tool to erase lines and edges. Use Move tool to move and copy selected entities. Use Offset tool. Select all connected geometry. Group objects to make: a group, a component.
Modify primitives by joining methods and create a complex 3D model using various textures.	Use of arc tool Use of Tape Measure tool Use of Scale/Stretch tool Use the Move tool to move, stretch, copy and array selected entities.

2. Sound Editing

2. Abiding to data protection and copyright laws I can use an open source sound editing application e.g. Audacity to perform the following tasks: Read a sound wave, apply an effect on a soundwave to reduce noise, cut pieces of a sound wave to create a new sound wave.

Topics to be covered /Skill Set	Sub-topics
Open the application, open a sound file and modify it and save it.	Import a sound file into a new project. Select a section of the clip. Select entire clip. Edit clip using cut, delete, copy, paste. Save the project.
Recognise peaks and different sections of a soundwave. Apply noise reduction effects on a recorded sound clip	Select and play part of a sound clip. Add new track Mute/Solo track Apply Fade in, Fade out effects.
Create and edit of an existing sound wave in a new innovative manner and export it in MP3 format.	Apply noise reduction on a clip. Generate silence on a clip. Apply effects like: Amplify, Change Pitch, Change Speed, Reverse Export as mp3.

3. Digital Divide

3. I can present ways how to reduce the digital divide e.g. reducing information poverty, create awareness about information censorship and provide global access to resources.

Topics to be covered /Skill Set	Sub-topics
3.1 Define the term Digital Divide.	Give examples to demonstrate an understanding of the digital divide.
3.2 Understand how the digital divide can be overcome or reduced.	List measures to reduce the digital divide.

4. Robotics and Artificial Intelligence (AI)

4. I can demonstrate in any chosen medium the shifting characteristics of Robotics and AI (Artificial Intelligence) in the film industry throughout time.

Topics to be covered /Skill Set	Sub-topics
Define the term Artificial Intelligence	
Understand how AI changed the film industry	

5. I can discuss the implications on humanity and the future career landscape with the advancement of AI (Artificial Intelligence) and Advanced Intelligent Systems.

Topics to be covered /Skill Set	Sub-topics
List positive and negative implications of AI on humanity	
Understand ethical issues related to AI	

6. I can ethically consider the role of robots in society and the impact on the human workforce.

Topics to be covered /Skill Set	Sub-topics
List different areas where Robots are being used in society.	
Understand ethical issues related to the use of robots	
List how robots are effecting the human workforce.	

Videos / Podcasts

List of videos/podcasts to assist students to achieve the following Learning Outcomes.

Learning Outcome