



Year 11

Syllabus

Version 2.1

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General Learning Outcomes

LO	Level 3	Level 2	Level 1
1	Create a new image with a multitude of images, effects, transforms and efficient use of layers	Edit an image using effects lasso tools, marquee tools and be capable of mixing different images. Basic use of layers and text	Open the application and open an image and transform it.
2	Can point out where DLT and blockchain technologies may benefit society	Know the definition of immutable, what is a blockchain and why it is used	Know the definition of blockchain and of the main advantages
3	Can differentiate between digital and crypto currencies and that crypto currencies use DLT	Is aware of the different types of digital currencies like In-Game tokens and Bitcoin	Know the difference between FIAT and Digital Currencies
4	Is aware of different applications of artificial intelligence and can give examples of real-world uses of computer vision , machine learning and NLP. I am aware of Deep Learning.	Can point out real-life examples of Artificial intelligence that are already being used. Can pinpoint the differences between machine learning and computer vision	Know that AI is an umbrella term which encapsulates a lot of larger subjects such as computer vision, machine learning etc.

Topics and Learning Outcomes in C3.5

Topics	LO
Image Editing	1 Abiding to data protection and copyright laws, I can edit and manipulate raster images to modify, edit and/or create new images by applying effects, transformations, using a layered approach by using a modern raster photo editing software, such as GIMP, Photoshop, Artweaver etc.
Intro to Blockchain	2 I can define what a blockchain is, its main component parts and why encryption is crucial to its mechanics.
Intro to Digital and Crypto Currencies	3 I can demonstrate knowledge of digital and cryptocurrency. I can point out the differences between FIAT and Digital Currencies as well as the differences between Digital Currencies such as game tokens and crypto currencies.
Intro to Artificial Intelligence	4 I can demonstrate basic knowledge of Artificial intelligence, its uses, advantages and disadvantages with special attention to machine learning and computer vision in the real-world.

Coursework 1: Image Editing 1

Coursework 2: Image Editing 2

1. Image Editing

1. Abiding to data protection and copyright laws, I can edit and manipulate raster images to modify, edit and/or create new images by applying effects, transformations, using a layered approach by using a modern raster photo editing software, such as GIMP, Photoshop, Artweaver etc.

Topics to be covered /Skill Set	Sub-topics
Open the application, open the image file in RGB mode, modify it and save it.	Open an image file. Change foreground and background colour. Use the zoom tool. Save project as .xcf file. Export the product as jpg and png format.
Use selection and editing skills	Use of rectangular and ellipse tool. Use free select tool. Use the select by colour tool (Shift+O). Deselect (CTRL+Shift+A). Use the move tool. Apply a stroke selection. Use of the clone tool. Scale selection using the scale tool, flip and rotate tool. Adjusting width and height of selection using Tool Options. Add Alpha Channel. Copy and paste as new layer.
Effects	Apply effects using Filters. Create a border. (changes canvas size) Artistic effects: blur, decor and enhance. Drop shadow. Desaturate: colour to gray and sepia. Hue saturation tool.
Working with layers	Add layer, delete layer, move up and down layer. Set opacity. Select visible layers, copy and paste as new layer. Group layers. Hiding and showing layers. Open files in separate layers. Adjusting the image position.
Text	Add text. Select font type, size, colour and format.

2. Intro to Blockchain (based on Videos)

2. I can define what a blockchain is, its main component parts and why encryption is crucial to its mechanics.

Topics to be covered /Skill Set	Sub-topics
Blockchain	Tally Stick and its use as public knowledge Public records such as Church noticeboards in Malta What is the meaning of immutability? What is a blockchain? How does a blockchain guarantee immutability?
DLT – Distributed Ledger Technologies	Centralised vs Decentralised System Elimination of Person of Trust (middlemen) and the reliance on blockchain DLT is an area of blockchain technology

3. Intro to Digital and Cryptocurrencies (based on Videos)

3. I can demonstrate knowledge of digital and cryptocurrency. I can point out the differences between FIAT and Digital Currencies as well as the differences between Digital Currencies such as game tokens and cryptocurrencies.

Topics to be covered /Skill Set	Sub-topics
Digital Currencies	What are FIAT currencies Define a digital currency In-Game tokens (such as VBucks in fortnite) Value Exchange , FIAT to DC and back. (for example Epic Games exchanges almost €4,000,000,000 a year from VBucks – fortnite)
Crypto Currencies	What is a crypto currency Based on DLT What is mining and why is it used The main crypto currencies Meme coins such as doge coin

4. Intro to Artificial Intelligence (based on Videos)

4. I can demonstrate basic knowledge of Artificial intelligence, its uses, advantages and disadvantages with special attention to machine learning and computer vision in the real-world.

Topics to be covered /Skill Set	Sub-topics
AI	Definition of Artificial Intelligence Real world examples of AI such as Siri, Alexa and other smart assistants Self-driving cars Conversational bots Email spam filters What is the Turing test? AI is an umbrella term for a lot of other technologies such as machine learning, computer vision, natural language processing, etc.
Machine Learning	What is machine learning The use of mathematics to train computers Big Data is used to train machines for feeding models
Computer Vision	What is computer vision How computer vision is used in everyday life
Discussion	Discuss the future of AI and the impact on Jobs and the future of humanity.