

# **MTD369 Virtual Reality and Augmented Reality**

**Level:** 3

**Credit Units:** 5 Credit Units

**Language:** ENGLISH

**Presentation Pattern:** EVERY JAN

## **Synopsis:**

MTD369 Virtual Reality and Augmented Reality aims to equip students with the ability to create virtual reality (VR) applications through the use of Unity. They will learn about concepts governing VR designs as well as the main components of VR development in Unity. Students can apply the VR principles when building VR applications for Google Cardboard. They will be introduced to the AR development environment and will be able to make a basic AR application.

## **Topics:**

- Introduction to Virtual Reality and VR Applications.
- VR Scenes and Objects
- Unity Basics
- VR Platform Experience and Platform Setup
- Unity Scripting in C#
- Developing a VR experience with Google Cardboard
- Interaction in VR
- Developing an interactive VR Quiz with 360 Video
- Challenges of VR interaction
- Introduction to Augmented Reality and AR Applications
- AR development environment
- Developing an AR mobile application

## **Textbooks:**

Author: Robert Dillion: 2D to VR with Unity5 and Google Cardboard. Edition: 2017 CRC Press  
ISBN-13: 9781498781527-AA

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**Learning Outcome:**

- Analyse basic scripting techniques and concepts related to VR through the use of the Unity platform.
- Apply the fundamentals of VR design for mobile devices and understand their importance.
- Examine the main components of VR development using Unity.
- Employ game coding concepts in game design.
- Develop a 3D VR application
- Create a VR application to be ported to mobile VR using Google Cardboard

**Assessment Strategies:**

<b>Continuous Assessment Component</b>	<b>Weightage (%)</b>
TUTOR-MARKED ASSIGNMENT	15
TUTOR-MARKED ASSIGNMENT	15
<b>Sub-Total</b>	<b>30</b>

<b>Examinable Component</b>	<b>Weightage (%)</b>
ECA	70
<b>Sub-Total</b>	<b>70</b>

**Weightage Total** **100**