ADVANCED AUGMENTED REALITY CAMP

Syllabus

General description:

In this course, you will learn to create Augmented Reality mobile apps using the C# programming language. As it is an advanced course, we recommend you to check out our beginners course if it is your first approach developing this kind of technology. You will be exploring advance functionalities with Unity, Vuforia and ARCore by creating layers of information that you can see through the camera of your mobile device or enabling virtual interactions in the real world through the different sensors available on mobile phones or tablets.

Novum Augmented Reality:

Our Augmented Reality courses incorporate STEM, in which Science, Technology, Engineering, and Mathematics subjects are naturally integrated into the course projects. We ensure that students fully understand the lessons without the need for hypothetical cases.

Our educational offer is based on multiple educational models and learning strategies such as:

- Project-based learning
- Problem-based Learning
- Competency-based learning
- Meaningful Learning
- Active learning
- The New Taxonomy of Educational Objectives by Marzano and Kendall

These provide the development of the skills needed to thrive in 2020 and the Fourth Industrial Revolution that we are experiencing nowadays. The World Economic Forum mentioned some transversal competencies in their report “The Future of Jobs” published in January 2016 and that our courses foster:

1. Complex Problem Solving
2. Coordinating with Others
3. People Management
4. Critical Thinking
5. Negotiation
6. Quality Control
7. Service Orientation
8. Judgment and Decision Making
9. Active Listening
10. Creativity

The whole curriculum is based on national standards to ensure the compatibility with state educational programs and keeps the quality of its contents across multiple dimensions.

- CCSS – Common Core State Standards
- NGSS – Next Generation Science Standards
- ISTE – International Society for Technology in Education
- STL – Standards for Technological Literacy

Projects in this course:

Our courses are designed to be personalized, self-managed, and self-paced. Everything happens inside our unique and state-of-the-art web platform MakerSTEAM and combines concepts and theory with reality and practice. Students become self-sufficient in their learning, gradually being able to build a mental structure that allows them to be expert lifelong learners. They will learn to learn.

Our learning path:

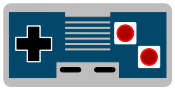
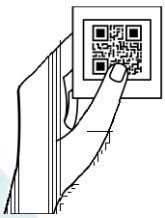
Each project follows a sequence of activities focused on providing the student with theoretical and practical knowledge about real-life applications.

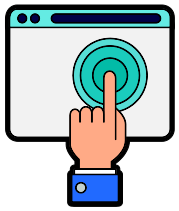
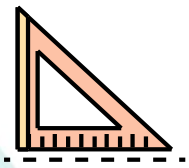
In each sequence, the student will:

- Know a specific set of goals and competencies to be developed
- Acquire project contextualization through a conceptual framework
- Download resources needed in the project manual
- Follow a project manual
- Create a functional mobile app through programming
- Challenge him/herself by pushing each project capacity beyond what is expected
- Analyze the obtained results

Each learning path has the learning objectives and competency to develop in each project.

There are 14 projects included in this course. Each project creates a mobile app capable to interact with the real world using virtual components.

Advanced Vuforia Projects	
Vuforia Cloud Recognition  Difficulty level: ★★	Virtual Buttons  Difficulty level: ★★
Business Card  Difficulty level: ★★	Video Player  Difficulty level: ★★
Image Carousel  Difficulty level: ★★	VUMARK  Difficulty level: ★★½

ARCore Projects	
AR Core Plane Detection  Difficulty level: ★★½	AR Core Ball Launcher  Difficulty level: ★★½
AR Core Facial Recognition  Difficulty level: ★★½	AR Core Facial Recognition with Filters  Difficulty level: ★★½
AR Core Contour Detection  Difficulty level: ★★★	AR Core Ruler  Difficulty level: ★★★
AR Core Light Detection  Difficulty level: ★★★	AR Core Portal  Difficulty level: ★★★

WEF (2016). The Future of Jobs. From World Economic Forum website: https://www.weforum.org/reports/the-future-of-jobs