

Virtual Reality Engineering
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Lecture- 01
Course mechanics

Welcome to this course on virtual reality engineering. This is a 12 week course; online course. This is an extended version of our summer course on Virtual Reality Engineering that we offered in 2015 summer. This was taught by Professor Steve Lavelle of UOI UC, University of Illinois Urbana Champaign. He was visiting here that summer and he offered this course. We will be using most of the lectures from this summer course taught by Professor Steve Lavelle himself, I will be adding more additional topics such as an advanced topics to make it as a 12 week course. There are 12 assignments in this course; roughly about 1 assignment every week. The assignments are either Computer Programming assignments or Numerical Problem solving assignments; Computer Programming assignments you will using unity or unreal engine, you donot need a extensive programming to learn unity or unreal engine the (Refer Time: 01:28) will help you.

Even if you donot have extensive programming background, by the way this is not a programming course. This is a course in which Engineering fundamentals needed to design a better Virtual Reality System is emphasized. We believe that if you learn the engineering fundamental that goes into the virtual reality systems design. Then you will be a much better programmer than compared to those without these fundamentals. Additional to those assignments, there is a optional project that you have to submit at the end of the project. The project is the optional, but you are encouraged to take this project seriously as possible; doing this project will help you to learn the engineering fundamentals better. So, you all encouraged to take this seriously. At the end of this course we will select few excellent projects and we will invite those students who have done these excellent projects to the campus and offer them internship either in the lab or the company. There are very exciting options available coming up in India; if neither we will help the students to make a career out of Virtual Reality. There are 2 reference books suggested for this course. The 1st one is a book written by Steve Lavelle himself; this is an online book. The link to the online book is given in this course websites. The 2nd

book is a common Computer Science book and Computer Graphics by Foley. The description of the book again, is given in the websites. Apart from these 2 reference books, I will be using additional references or reading materials from several sources. I will provide you well then and there whenever the topic is covered, you are encouraged to use your own references if you find it convenient for you to learn. There are 3 TA's associated with this course; 1 TA has a background in Computer Science, the other in Electronics and another in Instrumentation. You are encouraged to interact with them as often as possible, specifically for solving assignment questions and doing projects.

In the next set of videos Steve, will be talking about what are the goals of this course; what to expect from this course. He will introduce couple of terminologies which you will be using throughout the course. While watching those videos, I strongly encourage you to keep one thing in mind; the entire course on Virtual Reality, imagine that it is standing on 2 pillars; 1 pillar is their Immersion and another pillar is Interaction. Virtual reality is made up of these 2 pillars. We will be talking about in the course, what is immersion and what is interaction? What are the different types of the interactions? The whole course is about how do we improve immersion, how do we improve interaction so that we can make a better virtual reality system. We will be covering the topic of immersion roughly to the half of the course; the other half will be dedicated to talking about the interactions. I hope you will enjoy this course; you are welcome to register this course.

Thank you, bye.