

Course Introduction & Syllabus

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Department of Computer Science & Software Engineering
Faculty of Engineering & Computer Science

January 7, 2019

Lecture Overview

Course
Introduction
& Syllabus

Charalambos
Poullis

Introductions

Course details

Syllabus -
Course
Outline

Multimedia
Computing

Required
resources

After this
course

Slides
acknowledg-
ments

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- 4 Multimedia Computing
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Introductions

Instructor

- ▶ Charalambos [Charis] Poullis, Associate Professor

Research interests

- ▶ Computer Vision/Graphics
- ▶ Virtual/Augmented Reality

Office hours/Contact details

- ▶ EV 3.183, Wednesday @ 14:00-15:00 and by appointment
- ▶ charalambos [at] poullis [dot] org

Immersive and Creative Technologies Lab

- ▶ www.theICTlab.org
- ▶ www.facebook.com/theICTlab
- ▶ Research assistant opportunities - Contact me if interested



Introductions

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Teaching Assistants

- ▶ Majid Pourmemar
- ▶ Yashas Joshi

Contact details

- ▶ soen6761.ta [at] gmail [dot] com

POD

- ▶ Monday @ 14:00-17:00, EV3.260
- ▶ Wednesday @ 11:30-14:30, EV3.260

Grader

- ▶ Majid Pourmemar - By appointment only

Course Website

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Please visit this site regularly.

- ▶ www.poullis.org/courses/2019/Winter/SOEN6761/

For class discussions we will use Piazza. Signup link:

- ▶ http://piazza.com/concordia_university/winter2019/soen6761
- ▶ Access code: soen6761

The lecture notes will be posted on the course website the day of the lecture.

- ▶ Access code: u: SOEN6761 p: Notes2019

Bring to class and keep notes.

Syllabus - Course Outline

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Posted on the course website

- ▶ http://www.poullis.org/courses/2019/Winter/SOEN6761/resources/course_outline.pdf

What will the course cover?

This course will provide a comprehensive overview of the techniques used in creating, compressing, and storing multimedia content. In addition, the course will provide hands-on experience on the design and development of interactive and immersive visualizations in MR. More specifically, we will learn about the following:

- ▶ **audio:** - digitization and quantization, compression, standards
- ▶ **image:** - data representation, color models, compression, standards
- ▶ **video:** - analog, digital (subsampling), 3D, color models, compression, standards
- ▶ **VR/AR:** - displays, interaction, navigation; theoretical aspects and basic practical training in VR using Oculus Rift, HTC Vive, Google Daydream, with the use of Unity3D and Unreal Engine 4

Required resources

We will provide access to Oculus Rift, HTC Vive, Google Daydream, and Microsoft Hololens.

Game Engines:

- ▶ Windows: Unity3D, Unreal Engine 4 (UE4)
- ▶ Linux: UE4
- ▶ Mac: Unity3D, UE4

Oculus Rift/HTC Vive SDKs:

- ▶ Windows: Oculus Rift, HTC Vive
- ▶ Mac: Oculus Rift, HTC Vive

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- ▶ COMP 498/691G – Computer Vision - I'll talk a bit about this course towards the end of the class
- ▶ COMP 6971 - Advanced Computer Games

Slides acknowledgments

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The slides are a combination of multiple resources and materials generously made publicly available by Z-N Li, M. Drew, J. Liu.