

Syllabus

1. Course Title, style, and credit:

Introduction to Multimedia Information Processing

(x) Lecture, () Discussions, (x) Practice, [2 Credits]

2 . Appropriate grade level and Eligible Departments:

(x)1, (x)2, (x)3, (x)4, (x)5: () School of Cultural Sciences , () All Departments , () Other

3 . Lecturer(s): Motofumi T. Suzuki

Contacts to the lecturer (e-mail address, Tel and Fax numbers, and the office):

motofumi@code.u-air.ac.jp, Phone/Fax: +81-43-298-3212

4 . Time:

Class Hours: 15:00pm-17:00pm (Wednesday and Friday) 2009

5 . Place:

RM#412, CoDE, The Open University of Japan.

6 . Prerequisites and Styles

Prerequisite: A good knowledge of computer programming (C, C++, and Java.).

7 . Contents:

Introduction to theories and techniques of multimedia systems with emphasis on 2D image processing, computer vision, and 3D computer graphics.

8 . Course objectives:

By the end of this course, students should be able to understand fundamental concepts of 2D image processing and 3D computer graphics.

9 . Schedule:

- a) Image and applications
- b) Image manipulation / Image enhancement / Image segmentation
- c) Classifying objects / Template Matching/ Statistical Pattern Analysis
- d) Counting objects / Feature Recognition / Cross-correlation
- e) Introduction to 3D computer graphics

- f) 3D data files and formats / polygons / hardware
- g) Coordinate systems / Transformations
- h) Rendering methods / shading
- i) 3D Animations / 3D CG Applications

10 . Lecture materials and readings

[1] Introduction to Computer Graphics, James D. Foley , Andries van Dam , Steven K. Feiner , John F. Hughes , Richard L. Phillips, Addison-Wesley Professional, ISBN-10: 0201609215, ISBN-13: 978-0201609219.

[2] Graphics: Principles and Practice in C (2nd Edition) (Systems Programming Series) James D. Foley, Andries van Dam, Steven K. Feiner, John F. Hughes

11 . Grades:

Your final grade in this course is generally based on the following.

- 50% Assignments
- 30% Quizzes (x3)
- 20% Final exam

12 . Notes

N.A.

[Rev.09/2009a]