

**City University of Hong Kong**

**Information on a Course  
offered by Department of Electronic Engineering  
with effect from Semester A in 2012/13**

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**Part I**

Course Title: EE6432

Course Code: Topics in Digital Video Broadcasting

Course Duration: One Semester (13 weeks)

No. of credits: 3

Level: 6

Medium of Instruction: English

Prerequisites : Nil

Precursors : EE3101 Communication Engineering, or  
EE4115 Audio-Visual Engineering; or  
EE5809 Digital Audio Processing and Applications, or equivalent

Equivalent Course : Nil

Exclusive Courses: Nil

**Part II**

**Course Aims:**

This course aims at providing students with an understanding of technologies in digital video broadcasting (DVB) particularly in receiver designs, and with discovery learning experience to broaden their vision in a macro view of the DVB industry, including career development and job opportunities in the related consumer electronic markets.

**Course Intended Learning Outcomes (CILOs)**

Upon successful completion of this course, students should be able to:

No.	CILOs
1.	Describe the digital video broadcasting standards and systems
2.	Explain the transmission and reception mechanisms of digital TV content
3.	Describe the receiver designs in DVB industry
4.	Analyze the consumer electronic market and general business models
5	Demonstrate the understanding of digital switchover in various countries

**Teaching and Learning Activities (TLAs)**

*(Indicative of likely activities and tasks designed to facilitate students' achievement of the CILOs. Final details will be provided to students in their first week of attendance in this course)*

No.	CILOs
1, 2, 3, 4, 5	Lecture, tutorial, and discovery learning **
1, 2, 5	Mini-project

\*\*The weekly news digest and latest information on media will facilitate students in grabbing the up-to-date information in the DVB industry, inspiring students to develop new technologies that fit the market needs. Students are required to form small groups and perform a research based mini-project on digital switchover. Via this discovery learning with a finding presentation, students will also build up the capability in effective communication.

#### Timetabling Information

Pattern	Hours
Lecture:	26*
Tutorials:	13
Laboratory:	
Other activities:	

\*Some of the lectures will also be conducted as in class as mini-projects.

#### **Assessment Tasks/Activities**

*(Indicative of likely activities and tasks designed to assess how well the students achieve the CILOs. Final details will be provided to students in their first week of attendance in this course)*

	Type of assessment tasks	Weighting (if applicable)
Continuous Assessment	Written assignments, Tests, Projects	40%
Examination	Written exam	60% 2 hours

Remarks: To pass the course, students are required to achieve at least 35% in course work and 35% in the examination.

#### **Grading of Student Achievement:**

Letter Grade	Grade Point	Grade Definitions
A+	4.3	Excellent:
A	4.0	
A-	3.7	
B+	3.3	Good:
B	3.0	
B-	2.7	
C+	2.3	Adequate:
C	2.0	
C-	1.7	
D	1.0	Marginal:
F	0.0	Failure:

#### **Constructive Alignment with Programme Outcomes**

PILO	How the course contribute to the specific PILO(s)
1, 2, 3	The course provides students with a clear picture of digital switchover in different countries, and hence allows them to describe various digital video broadcasting standards and systems. With the introduction of DVB-T standard, the students are expected to be capable of understanding the basic concepts of other DVB standards, and are able to take part in receiver hardware and software designs.
4, 5, 6	Receiver designs, content protection technologies and the industry appreciation offer students practical knowledge for product developments according to design specifications.

### **Part III**

#### **Keyword Syllabus:**

Overview of Digital Video Broadcasting: digital switchover, digital TV standards, formats and systems

Digital Contents Fundamentals: digital audio and video formats, their compressions

Digital Video Broadcasting - Terrestrial: general network structure, modulation schemes, MPEG transport stream, interaction between a broadcaster and an viewer

Generic Receiver Designs: set-top-box designs, and iDTV designs

Content Protection for Paid TVs: common interface background, scheme, further development

Industry Appreciation: various parties in the industry, business models, market evolvement

#### **Related Links**

[Department of Electronic Engineering](#)