

電気通信大学 平成21年度シラバス

授業科目名	Visual Communication		
英文授業科目名	Visual Communication		
開講年度	2009年度	開講年次	3、4年次
開講学期	前学期	開講コース・課程	昼間コース
授業の方法	講義	単位数	2
科目区分	総合文化科目-国際科目-		
開講学科・専攻	情報通信工学科 情報工学科 電子工学科 量子・物質工学科 知能機械工学科 システム工学科 人間コミュニケーション学科		
担当教官名	金子 正秀		
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<b>【主題および達成目標】</b>
<p>As represented by the famous proverb "Seeing is believing", visual information plays a very important role in our daily lives. In this class, the fundamentals of visual communication, especially image coding techniques, are lectured from the viewpoint of efficient transmission of image information and better communication through visual media. International activities to establish the common standards of image coding are also introduced.</p>

<b>【前もって履修しておくべき科目】</b>
NIL

<b>【前もって履修しておくことが望ましい科目】</b>
NIL

<b>【教科書等】</b>
Handouts will be prepared in the class.

**【授業内容とその進め方】**

**[1] Visual media**

Definition and classification of "visual media"

**[2] Fundamentals to handle digital images**

Digitization : sampling + quantization

Amount of information contained in digital images

Characteristics of human vision

**[3] Visual communication and Image / Video Coding**

Redundancies contained in images

Basic methods of image data compression

predictive coding, transform coding, interframe coding, motion compensation

**[4] International standards of image / video coding**

JPEG, JPEG2000, Motion-JPEG2000, JBIG,

H.261, H.263, H-264 (MPEG-4 / AVC)

MPEG-1, MPEG-2, MPEG-4, MPEG-7, MPEG-21

**[5] Video over Internet and over mobile network**

Internet as transmission media of video

Mobile network as transmission media of video

**【授業時間外の学習（予習・復習等）】**

Please review the contents explained in each class every week.

**【成績評価方法及び評価基準(最低達成基準を含む)】**

There will be some report requirements on the topics mentioned above during the semester. One examination will be carried out at the end of semester. Assessment in this class will take account of these reports, examination, attendance-rate and contribution for class discussions at the score proportion of 30%, 30%, 20%, and 20% respectively.

**【オフィスアワー：授業相談】**

Please make a contact by E-mail.

**【学生へのメッセージ】**

Not only attending the class, but also thinking well about the role of visual media in the future society.

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【その他】
Not particular.