

Tárgytematika / Course Description **Digital Audio and Video Broadcasting**

GKNM_TATA024

Tárgyfelelős neve /

Teacher's name: dr. Wersényi György

Félév / Semester: 2024/25/2

Beszámolási forma /

Assesment: Vizsga

Tárgy heti óraszám /

Teaching hours(week): 2/0/2

Tárgy féléves óraszám /

Teaching hours(sem.): 0/0/0

OKTATÁS CÉLJA / AIM OF THE COURSE

Introduction to the basics of digital broadcast systems in theory and applications.

TANTÁRGY TARTALMA / DESCRIPTION

1. Basics of digital signal processing: conversion, quantization noise, filtering
2. Digital signal manipulation: time correction, jitter, sample frequency conversion, oversampling, dither
3. Error correction and coding, interpolation
4. Source coding in audio: MPEG audio, MUSICAM, ATRAC
5. Digital radio: Digital Radio Mondiale (DRM) and DAB/DAB+
6. Digital image processing and broadcast : DVB systems
7. DVB-S2, DVB-H, S-DMB, T-DMB, WIMAX, IPTV, VoD, NPVR, etc.
8. Broadcast over internet
9. Channel properties: cables, transmitters, set-top-boxes
10. DVB measurements
11. High-definition technology (HD): full-HD, 4K and beyond
12. HD recording formats and players (blu-ray, LED screens, etc.)
13. Future perspectives

SZÁMONKÉRÉSI ÉS ÉRTÉKELÉSI RENDSZERE / ASSESSMENT'S METHOD

Written exams. You have to reach 50% to pass.

KÖTELEZŐ IRODALOM / OBLIGATORY MATERIAL

- [1] <http://vip.tilb.sze.hu/~wersenyi/DMJ.pdf>
[2] Walter Fischer - Digital Video And Audio
Broadcasting Technology A Practical Engineering Guide
(4th edition, 2020)
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AJÁNLOTT IRODALOM / RECOMMENDED MATERIAL