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| Course Name [科目名] | Digital Signal Processing  |
| Instructor Name [教員] | Akinobu Shimizu, Yuichi Tanaka |
| Office Hours and Contact Information[オフィスアワー、連絡先] | ShimizuLocation: Building 5-302Telephone: +81-42-388-7478E-mail: simiz@cc.tuat.ac.jpOffice hours: after class or by appointmentTanaka Location: BASE Building 619 Telephone: +81-42-388-7150 E-mail: ytnk@cc.tuat.ac.jpOffice hour: after class or by appointment |
| Course Structure [授業形態] | Lecture and Exercise  |
| Course Credits [単位数] | 3 |
| Course Overview [概要] | This lecture focuses on basic technologies for signal processing and its applications |
| Course Key Words [キーワード] | digital signal, Fourier transform, correlation analysis, digital filter |
| Academic Goal [目標] | 1. Able to understand Fourier transform.
2. Able to understand correlation analysis
3. Able to understand the z-transform
4. Able to understand filter properties and design techniques
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| Course Schedule [授業内容] | Week 1: Discrete Fourier transformWeek 2: Fast Fourier transformWeek 3: High dimensional Fourier transformWeek 4: Auto-correlation analysisWeek 5: Cross-correlation analysisWeek 6: The z-transformWeek 7: Properties of digital filtersWeek 8: FIR and IIR filter designWeek 9: Multirate DSP systemsWeek 10: Applications of DSP  |
| Textbooks, References, and Supplementary Materials | Handouts and materials given on or before the lectures |
| Grading Philosophy(Percentage / Criteria / Methodology) | 20% Participation to lecture80% homework and short reports. |
| Other(i.e. Expectations on Classroom Conduct and Decorum etc.)[その他] |  |