科目ナンバリング	U-LAS30 10037 SE10				
授業科目名<英訳>	Practice in Basics of Informatics and AI -E2 Practice in Basics of Informatics and AI-E2	担当者所属職名・氏名	工学研究科　講師　Tam Willy Nguyen		
群	情報学科目群	分野(分類)	(基礎)	使用言語	英語
旧群		単位数	2単位	週コマ数	1コマ	授業形態	演習（対面授業科目）
開講年度・開講期	2026・前期	曜時限	金2	配当学年	主として1回生	対象学生	全学向

[授業の概要・目的]

Information and Communication Technology (ICT) skills are essential for academic study and professional work. This course introduces the fundamentals of informatics and programming, combining theory with practical exercises. Students learn how computers, networks, and programming environments function, and how to apply these skills to academic and research contexts.

[到達目標]

By the end of the course, students will be able to:
1. Understand computer and operating system fundamentals, including UNIX environments and basic command-line tools.
2. Create academic and technical documents using LaTeX.
3. Write simple programs in C/C++ or Python to solve practical problems.
4. Describe key concepts in networking, TCP/IP, and information security.
5. Explore basic techniques for visualization, parallel computing, and introductory AI.
6. Continue developing informatics skills independently.

[授業計画と内容]

Week 1: Computer Basics & UNIX Systems
- Course Introduction
- Overview of operating systems
- UNIX terminal, shell commands, and editors (vim)

Week 2-5: Programming and Technical Writing
- First programs in C/C++: compilation, linking, debugging
- Fundamentals of algorithmic thinking
- Writing technical reports using LaTeX

Week 6-9: Network Fundamentals & Security.
- TCP/IP and Internet Protocols
- Information security & ethics
- Basics of cybersecurity (encryption/decryption)

Week 10-12: Parallel Computing and Visualization
- Introduction to GPGPU concepts
- Visualization with Blender
- Overview of AI tools using PyTorch

Week 13: Course Review and Final Project Submission

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Practice in Basics of Informatics and AI-E2(2)

Week 14: Feedback Session

[履修要件]

- No formal prerequisites.
- Basic familiarity with computer use and high school-level mathematics is helpful but not required.
- Students must have access to a personal computer for programming exercises and online modules.

[成績評価の方法・観点]

Student performance will be evaluated as follows:
1. Attendance and participation: 15%
2. Punctuality: 5%
3. Assignments & Reports (3): 80%

[教科書]

H. Kita, Y. Kitamura, H. Hioki, H. Sakai, and D. Lin 『The Practice of Basic Informatics 2024』 （Kyoto University） （The textbook is provided online via the university system.）

[授業外学修（予習・復習）等]

Student Expectations
1. Review materials before class.
2. Practice programming and computing exercises.
3. Submit assignments and reports on time via LMS.
4. Complete AI/Data Science e-learning modules and join Q&A sessions.
5. Review notes and strengthen informatics skills regularly.

[その他（オフィスアワー等）]

[主要授業科目（学部・学科名）]