

## Intelligent Information Systems

2 units (selection)

Hiroaki Ogata · ASSOCIATE PROFESSOR / INTELLIGENT SYSTEMS, INFORMATION SCIENCE AND INTELLIGENT SYSTEMS, SYSTEMS INNOVATION ENGINEERING

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Kazuhide Kanenishi · PROFESSOR / APPLIED INFORMATION MEDIA ENGINEERING, INFORMATION SCIENCE AND INTELLIGENT SYSTEMS, SYSTEMS INNOVATION ENGINEERING

Teruaki Ito · ASSOCIATE PROFESSOR / MECHANICAL SCIENCE, MECHANICAL ENGINEERING, INTELLIGENT STRUCTURES AND MECHANICS SYSTEMS ENGINEERING

**Target)** Learning the design methods of intelligent information systems such as educational software and interactive systems.

**Outline)** Intelligent systems and their mechanics. Intelligent CAI. Intelligent interface. Micro-worlds in intelligent CAI. Learner-teacher modelling. Knowledge acquisition models. Empirical and analytical machine learning, e. g., ID3, similarity-, explanation-, and case-based learning. Genetics-based machine learning, e. g., genetic evolution and co-evolution of production systems, finite state machines, recurrent neural networks, and strategic knowledge. Concepts of collaborative interface systems based on intelligent interactions, and their implementation for design support systems.

**Style)** Lecture and exercise

**Keyword)** *intelligent interface, intelligent educational systems, intelligent agents, CSCW, CSCL, interactive interface*

**Fundamental Lecture)** “**Human Factors**”(1.0)

**Relational Lecture)** “**Applied Knowledge Systems**”(0.5), “**Autonomous Adaptive Systems Engineering**”(0.5)

**Goal)** Acquisition of the design methods of educational systems and interactive systems

**Schedule)**

1. Overview of Intelligent Information Systems
2. Intelligent CAI
3. Cognitive model for Learning
4. Design of ITS(Intelligent Tutoring System)
5. ILE(Interactive Learning Environment)
6. CSCL
7. Ubiquitous and Mobile Learning Environment
8. Design of Intelligent Interactive System
9. Collaborative Interface
10. Design of Intelligent Information System (1)
11. Design of Intelligent Information System (2)

12. Design of Intelligent Information System (3)

13. Design of Intelligent Information System (4)

14. Design of Intelligent Information System (5)

15. Conclusion

**Evaluation Criteria)** We will grade based on reports and interactive presentation among students.

**Contents)** <http://cms.db.tokushima-u.ac.jp/cgi-bin/toURL?EID=216763>

**Student)** Able to be taken by only specified class(es)

**Contact)**

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**Note)**

- ◇ 授業計画 1～15 は、各講義のレポートおよび最終試験により達成度評価を行なう。
- ◇ 授業を受ける際には、2時間の授業時間毎に2時間の予習と2時間の復習をしたうえで授業を受けることが、授業の理解と単位取得のために必要である。