

北陸先端科学技術大学院大学研究室教育指針
Laboratory Education Guideline

研究室教育指針は、学則第30条の3に基づき、研究指導の方法及び内容並びに修了までの研究指導の計画をあらかじめ明示するものです。

Based on the Article 30-3 of the general academic rules, the Laboratory Education Guideline is intended to clearly outline the methods and content of research guidance, as well as the plan for research guidance until completion.

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1. 研究テーマ / Research Theme
The laboratory conducts both fundamental and applied research centered on intelligent decision-support systems, powered by data science and data-driven knowledge management. Its main research areas are data science, artificial intelligence, operations research, and decision support systems. Key themes include: (1) machine learning and data analytics, (2) AI reasoning and argumentation-based reasoning, (3) uncertainty management, (4) optimization and decision analysis, (5) multi-source learning and knowledge fusion, and (6) explainable machine learning. The laboratory emphasizes practical applications in e-commerce, marketing intelligence, finance, and industrial/business management.
2. 修得が期待される能力 / Competencies expected to be acquired 研究室教育は必修 A 科目（先端）又は研究支援科目（融合）の一部として単位化されており、この欄はそれら科目のシラバス上の達成目標の一部となります。 Laboratory Education is accredited as a part of the Required courses A (Division of Advanced Science and Technology) or Research Support Courses (Division of Transdisciplinary Sciences), and this section constitutes a part of the course goals stated in the syllabus for such subjects.
Master's students are expected to develop the ability to identify and formulate research problems, collect and organize relevant data, construct appropriate models, and perform sound analyses. They should also build competence in literature review, research planning, experimental design, result validation, thesis writing, and oral presentation in seminars and conferences. Doctoral students are further expected to establish independent research capability by defining original and academically significant research questions, developing theoretically rigorous methodologies, and disseminating their research results internationally. Through laboratory education, students progressively cultivate: <ul style="list-style-type: none">• Knowledge: Systematic understanding of machine learning, data analytics, optimization, decision analysis, uncertainty representation, and knowledge modelling.• Skills: Proficiency in problem formulation, mathematical and computational modelling, implementation, evaluation and visualization, academic writing, and presentation.• Attitudes: A commitment to research ethics, critical thinking, collaboration, and a responsible awareness of practical and societal impact.
3. 研究指導方針 / Research Guiding Principle
The laboratory is guided by the principle that high-quality decision support systems must rest on a sound theoretical foundation. Accordingly, it maintains a balanced emphasis on theoretical advancement and practical applicability. Students are trained to address real-world problems, thereby developing systems thinking, modelling competence, and the ability to identify the essence of complex issues. Through regular meetings, rigorous review of research plans, and constructive feedback on deliverables, research supervision fosters students' progressive and autonomous growth. The laboratory also values an inclusive and collaborative environment in which students from diverse backgrounds learn from one another, with strong emphasis on research integrity, reproducibility, interdisciplinary thinking, and international scholarly communication.
4. 研究室活動の内容及び方法 / Content and Methods of Laboratory Activities
<input type="checkbox"/> 日次活動 / Daily Activities : Core time (research and study activities in the lab). <input type="checkbox"/> 週次活動 / Weekly Activities : Weekly laboratory meetings to discuss research updates, proposals, plans, and literature review. Biweekly progress meetings in which each member reports work completed over the previous two weeks, identifies obstacles, and sets goals for the next two weeks. These meetings foster interaction and mutual motivation among lab members.

- 月次活動 / Monthly Activities : Individual meetings to review detailed research progress and provide personalized guidance.
- 不定期活動 / Occasional Activities : Lab assemblies, technical study sessions, participation in international conferences, collaborative research meetings, and guidance for paper submission. Doctoral students are especially encouraged to present and publish internationally.

5. 年間スケジュール / Annual Schedule

本学の全学共通の年間スケジュールは「履修案内」の「学位取得に至るスケジュール」を参照してください。（本学HP参照：ホーム>教育>履修関係>履修案内）

Please refer to the “Degree conferment schedule for the master’s program/doctoral program” in the “Degree Completion Guide” for university-wide common schedule (JAIST website: Home >Education>Taking Courses>Degree Completion Guide)

- Laboratory Orientation for New Students (April/October): Welcoming new members and introducing lab protocols.
- Research Planning & Literature Survey (Spring/Fall): Formulation of individual research objectives and comprehensive background reviews.
- Laboratory Trip/Retreat (Occasionally): Team-building activities and research discussions held at irregular intervals.
- Mid-term progress report and internal workshop (End of May/Beginning of June)
- Submission and presentation of research results at international conferences (Year-round)
- Master's/Doctoral thesis preparation and defense according to university schedule.