

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
Cognitive Science, Artificial Intelligence, Neuroscience, Semantic Cognition, Understanding, Learning, Language Development, Bodily Action, Imitation, Communication, Information, Computational Theory, Nonlinear Dynamical Systems.  Toward an Understanding of Semantic Cognition All forms of creative activity, including research, are fundamentally grounded in human cognition. Cognition refers to the mental processes and functions that enable human thought, and the development of human society depends critically on individuals' capacity to understand and create meaning. The primary objective of this laboratory is to elucidate the fundamental cognitive processes through which humans comprehend meaning. To this end, our research is conducted through both theoretical and experimental approaches, spanning multiple disciplines such as cognitive science, artificial intelligence, and neuroscience.
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.
This laboratory conducts theoretical and experimental research aimed at elucidating human cognitive processes. Because many cognitive processes cannot be directly observed or measured, they are examined experimentally through the development of theories, hypotheses, and formal models. Consequently, students engaged in theoretical research acquire not only skills in theory building and modeling, but also the methodological knowledge required to link theoretical work with empirical studies. Similarly, students involved in experimental research develop logical and analytical thinking skills essential for designing well-structured experiments, in addition to gaining empirical experience. Through training in both theoretical and experimental approaches, students are equipped with the foundational competencies necessary for effective communication across diverse academic fields and professional domains, including careers in the private sector.
3. 研究指導方針 / Research Guiding Principle
To emphasize student initiative, the laboratory adopts the principle that each student defines a research topic aligned with their individual interests and suitable for independent inquiry. Laboratory activities focus on advancing research and cultivating fundamental logical thinking through presentations and discussions in seminar sessions. In addition to formal seminars, informal discussions are encouraged, even on topics not directly related to an individual's own research. To promote active engagement in research, the laboratory provides support for research outcomes that meet a certain standard, with the aim of presenting them in academic journals and at international conferences.
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 : Informal chat (anytime as you wish) <input type="checkbox"/> 週次活動 / Weekly Activities : Lab meeting (once a week), Goal setting and check (once a week), individual meeting (once a week upon request), tea time (once a week) <input type="checkbox"/> 月次活動 / Monthly Activities :

□不定期活動 / Occasional Activities : Specially-appointed lab meeting (before submitting research proposal, med-term presentation, master defense, doctoral defense, and so on), in-person meeting with students in Tokyo satellite (approximately every two months), in-lab internship (September to December), presentation in academic conferences (1 to 3 times a year), lab retreat (once a year), reading group (upon request)

#### 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)

After joining the laboratory, first-year master’s students (M1) consult with the principal investigator (PI) to tentatively determine a research topic and undertake a literature review assignment in the relevant field. This literature review serves as the foundation for the preliminary submission of the research proposal in December. In August, students are encouraged to participate in summer schools such as those organized by the Japanese Cognitive Science Society or the JAIST Summer School, in order to acquire fundamental knowledge of the field and to engage in academic exchange with other participants. Each September, the annual conference of the Japanese Cognitive Science Society is held; participation is encouraged for M1 students, while students in their second year or above (M2 and beyond) are encouraged to present their research. Typically, a laboratory retreat is held around October to November in the form of the Computational Cognitive Science Workshop, during which intensive supervision is provided for M1 and M2 students’ research proposals and master’s thesis research. If notable research outcomes are achieved during the master’s thesis period, students are encouraged to submit their work to international conferences, such as the Cognitive Science Society (CogSci).