

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.

氏名 / name : UEHARA Ryuhei 役職 / official position : Professor

1. 研究テーマ / Research Theme
Theoretical computer science, computational complexity, algorithms, and computational geometry. In particular, computational origami, combinatorial optimization, graph algorithms, and computational complexity of games and puzzles.
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.
Through research activities that involve identifying the problem being researched, solving it, and presenting the results of research externally, students can build up their intellectual foundation and acquire long-term problem-solving skills.
3. 研究指導方針 / Research Guiding Principle
Our laboratory aims to train students who have a correct understanding of research activities in fundamental theories and who can put them into practice. Research activities in fundamental theories in computer science have three pillars: (1) modeling to abstract specific problems, (2) developing algorithms for problem-solving, and (3) theoretical evaluation of the developed algorithms. Our policy is to train students who have the ability to put these three into practice. Furthermore, because the presentation of research results is also important as a summary of research activities, our laboratory requires, as a general rule, students to make external presentations of their master's research. Doctoral students in particular are required to present their research results at international conferences in English.
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 : <input type="checkbox"/> 週次活動 / Weekly Activities : We hold "study seminars" using textbooks and papers, primarily for students, and "research seminars" where students give progress reports on their research and practice presentations. (The frequency of these seminars is adjusted depending on the season.) <input type="checkbox"/> 月次活動 / Monthly Activities : <input type="checkbox"/> 不定期活動 / Occasional Activities : Slack is used to arrange seminar schedules and share materials such as slides and papers as appropriate. Laboratory seminars are held in a hybrid style that combines face-to-face and online meetings, so if it is not possible, participants can join remotely. Recording videos are also shared so that students can check the seminars. Individual meetings are also held as needed. As described separately, research presentations are also made outside the university (domestic and international) depending on the progress of their research.
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)

**For Master Program Students**

About six months after assignment: The topic of the master's thesis will be fixed.

Mid Presentation: The presentation is required, and students should have sufficient knowledge of their research topic, some results, and solid master's thesis stories.

End of December of the second year (if enrolling in April): The goal is to complete the first draft of their master's theses.

From September to March of the second year: Make an external presentation depending on the progress of their master's thesis. If they present in Japanese, they can be made at SIGCOMP in the Institute of Electronics, Information and Communication Engineer or SIGAL in the Information Processing Society of Japan.

**For Doctoral Program Students**

While this will depend largely on the progress of their research, Ph.D students will aim to publish at least one journal paper and two or more international conference presentations during their doctoral studies according to the schedule below, and compile the results into their doctoral theses.

D1-D2: Translate the results of their master's thesis in English, present them in English at international conferences, and then submit a journal paper based on that.

D2-D3: Obtain new research results separate from their master theses and present them at international conferences in English.