

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
<p>We think software is most essential technology for information society, and have a philosophy such that it must be evaluated objectively. We engaging in several researches spreading into wide area of software engineering, especially about software analysis, design, realization, maintenance and education. Our research interests includes the following themes:</p> <ul style="list-style-type: none">▪ programming languages and their execution environments▪ software development processes and supporting tools for developers▪ metrics for software analysis and evaluation comprehension and visualization▪ quality evaluation and improvements of embedded systems▪ quality evaluation and improvements of web-based enterprise systems▪ education of programming languages and development methodologies
2. 修得が期待される能力 / Competencies expected to be acquired <p>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.</p>
<p>We provide our students the opportunity to gain basic skills not only knowledge and experiences who can contribute immediately to the industries but also skills for understanding fundamental theories. They can apply and adopt their skills in the near future even if these technologies are improved. More concretely, they can solve the following issues:</p> <ul style="list-style-type: none">▪ understand programs written in at least one of the languages among Java/Python/Go▪ complete development of small projects including coding and testing using the language▪ evaluate and improve the them based on knowledge about the quality of software▪ engage to building education plans for novices with rich experiences as a master or more
3. 研究指導方針 / Research Guiding Principle
<p>Our research guiding principle is the manifest that “Software researches and developments are highly intelligent activities which require continually changes and improvements.” We progress our activities the policy based on the creativity and with the balance between theories and practices. We think these activities are not ends at the point that the programs works well. We suggest to our students to have wider and more objective viewpoints which are essential to improve software, for example “Why it works well?”, “Is it a best solution?”, “What is the impacts of using these systems to our daily life?”</p>
4. 研究室活動の内容及び方法 / Content and Methods of Laboratory Activities

日次活動 / Daily Activities:

Our laboratory open in 24/7 such that students can come and engage there researches at anytime. Also we recommend them to stay during 2 to 6 PM every weekdays as core time as possible.

週次活動 / Weekly Activities:

We plans a seminar or meetings twice a week during the core time. Agenda includes such as lecture of some basic technologies and group discussion about more concrete research issues.

月次活動 / Monthly Activities:

We have meetings aims for sharing the progress of research and encountered issues among students at the end of each months. Sometimes group studies about development methodologies are also planned.

不定期活動 / Occasional Activities:

We suggest the students to submit their achievements to “special interest groups of software engineering” which is held each autumn by “Information Processing Society in Japan” if their progress are well. Also encourage to challenge to “Software engineering symposium” by the same society which is held in each June (refereed, deadline is late March) when their master thesis are evaluated excellent.

5. 年間スケジュール / Annual Schedule

大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)

During temporally lab assignment:

We prepare a training course aimed for newcomers to study about fundamentals of software engineering if they wish to participate. It includes an achievement of a small (but typical) software development project in order to gain experience about the processes for requirement analysis, design and implementations.

After formal lab assignment to late November:

We suggest students to join some courses including introduction about new methodologies, and small projects with some software development tools in order to enrich their knowledge and experiences in software engineering.

We also provide some e-learning systems (one of the product built by our minor research), and discussion (called ‘live programming’) about some concrete software development problems (some of them are made by tutors itself) from the large screen on which all participants can propose their own ideas and evaluate each other at real time.

From October to December:

Students might engage their each works including survey about traditional methodology, acquiring knowledge by concrete experiments and evaluations aimed for their research proposals.

From next January to March:

Complete and submit their research proposals.

From next April to late November:

We instruct students to increase the workload for researches in the order that whose job hunting is finished. We prepare the opportunity to solve issues in their research progresses immediately with discussions during core time meetings, especially face-to-face meetings at least once a month. Also we encourage to submit their efforts to special interest groups of software engineering by IPSJ if their works are excellent.

After next December:

Complete and submit their master's thesis or research project report.