

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
New energy sources, Catalyst chemistry, Solid catalyst (Alloy catalyst, Biomass transformation catalyst), Catalyst design, Mechanistic study, Data-driven method design
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.
Development of new solid catalyst process is constructed with a variety steps: Catalyst design → Catalyst preparation & Conditioning → Performance evaluation & Conditioning → Characterizations (Kinetics, XRD, TEM-EDS, N ₂ ads/des, FT-IR, UV-vis, Raman, XPS, XAFS etc) → Modeling/Hypothesis → Verification → Scope. Moreover, there is more than one crucial factor on the target catalysis. Accordingly, following the step to reveal the role of catalyst, the student would learn the various analytical methods and skills to combine the many aspects of data.
3. 研究指導方針 / Research Guiding Principle
Labo meeting for introduction of previous papers and/or discussion of recent data is held in one time per two weeks. Core-time is not determined, however, the students must pay attentions to their healthy/regular life in the labo. Presentations in domestic/international conference are recommended. Also, more than one paper (or proceeding) are better to be published based on your efforts in the labo.
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 : No core-time (Solo experiments prohibited; especially at night and on weekends) <input type="checkbox"/> 週次活動 / Weekly Activities : Labo cleaning day <input type="checkbox"/> 月次活動 / Monthly Activities : Research progress report/Paper introduction <input type="checkbox"/> 不定期活動 / Occasional Activities : Annual report • Practice for the conference talk
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)
As research progress, it is promoting the following academic conference presentations: M1 December: Catalyst Society of Japan (Spring) • Chemical Society of Japan (Spring) Application >> End of March Attendance M1 January: Japan Petroleum, Institute (Spring) Application >> End of May Attendance M2 May: Catalyst Society of Japan (Fall) Application >> Middle of September Attendance M2 Jun: Japan Petroleum, Institute (Fall) Application >> End of November Attendance M2 December: Catalyst Society of Japan (Spring) • Chemical Society of Japan (Spring) Application >> End of March Attendance *Note that doctoral student would attend international conference at appropriate timing