

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

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.

Name : Hideyuki Murata official position : Professor

1. Research Theme
The aim of my research group is to implement the research outcomes obtained through fundamental studies on organic semiconductor devices. We have been working on organic light-emitting diodes (OLEDs) and optical antennas for visible light wireless communication. In addition, through joint research with private companies, we have been developing a vacuum sublimation purification system for organic semiconductor materials and a precision evaluation system for OLEDs. In the collaboration with Kanazawa City, we are developing unique filler materials for conductive pastes using Kanazawa gold leaf as the raw material.
2. 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, students are expected to acquire the ability to independently conduct academically and socially valuable research. Specifically, the following competencies are expected to be acquired: (1) Information gathering and analytical skills necessary for conducting research (2) Planning skills to achieve set objectives (3) Practical skills for research activities (4) Communication skills to convey the value of research outcomes. Additionally, expected specialized knowledge includes photochemistry, solid-state physics, and organic device physics.
3. Research Guiding Principle
Undergraduate education provides the foundation for acquiring specialized knowledge. On the other hand, graduate school is where students master cutting-edge knowledge and apply it to research. We believe the most valuable experience is overcoming the difficulties encountered during the master's research project.
4. Content and Methods of Laboratory Activities
<input type="checkbox"/> Daily Activities: Morning meeting, Core working hours <input type="checkbox"/> Weekly Activities: Individual research meetings (Biweekly), Laboratory cleaning <input type="checkbox"/> Monthly Activities: Research seminar, Presentation for recently published papers <input type="checkbox"/> Occasional Activities: Laboratory seminars, Participation in domestic and international conferences, Ethics training sessions, Luncheons, Welcome and farewell parties, Reunion party for alumni and current students
5. 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)
First Year (schedule for the students enrolled for April admission) <ul style="list-style-type: none"> • New student orientation within the laboratory (April) • Laboratory introduction for new students (Open Lab) (May) • Presentation of under graduate project (for students assigned to my groups) (July) • Determination of Master's Research Topic (August) • Presentation of research background (M1, September) • Participation in the Hokuriku-Shinetsu Branch of the Japan Society of Applied Physics

(JSAP) (December)

- Submission of research proposal (February)

Second Year

• Presentations at domestic conferences (e.g., OLED Forum Japan, JSAP) and various international conferences (minimum one presentation required during the master program)

- Master's thesis outline presentation (December)

- Master's thesis writing (December to February of the following year)