

The 7th JUACEP Seminar

第7回 名古屋大学日米協働教育プログラムセミナー

JUACEP Summer Internship Lecture Series

“Designing Research Projects and Methods”

Lecturer: Associate Professor Katsuo Kurabayashi

**Dept. Mechanical Engineering, Electrical Engineering
and Computer Science, University of Michigan**

略歴: 倉林活夫。米国ミシガン大工学部学機械工学および電気工学・コンピューターサイエンス科准教授。1992年東京大学工学部精密工学科卒。1994年にスタンフォード大学材料科学部修士号、1998年に同大学Ph.D.取得。その後スタンフォード大学研究員を経て、2000年1月より、ミシガン大学助教授に赴任。現在の研究テーマは、生体・医療・環境分野の先端計測マイクロ・ナノデバイス開発と基礎研究。こうした研究分野で5つの米国特許取得と80本以上の論文・著書執筆。2001年米国科学財団 (NSF) Early Faculty Career Development (CAREER)賞, 2005年Robert Caddell 記念賞、2007年Pi Tau Sigma Outstanding Professor 賞受賞

Dates: July 23-25, 2012

**(3 morning lectures, 2 afternoon sessions and a presentation course.
See another schedule.)**

Venue: Room 032, ES Building

Course Description:

This intensive summer course provides a fundamental training for senior-level undergraduate and graduate students to conduct research with a full understanding of the importance of logical thinking. The objective of this course is to help students develop skills to independently define problems and design methods for performing a logically well-defined research project. The covered topics in this course include: (a) Research planning; (b) Research implementation; (c) Research proposal/paper writing; and (d) Research presentation. At the end of this course, the students are required to make a presentation about their summer projects at Nagoya University.

**Inquiry: Prof. Umehara (2785)
Prof. Ju (4672)**

Schedule

Session	Dates	Type	Topics	Assignments
1 (ES032)	July 23 (Monday) 10:30-12:00am	Lecture 1	Purposes of Research Research Proposal Structure Finding Research Problems Conducting Research Sample Project	Research proposal assigned
2 (ES032)	July 23 (Monday) 1:30-3:00pm	Problem Session	Writing a research proposal Individual discussion	Informal presentation/discussion
3 (ES032)	July 24 (Tuesday) 10:30-12:00am	Lecture 2	Innovative design and research process -Case study: Silicon Valley Design Company, IDEO Research Paper Writing -Background/Literature Survey -Problems/Working Hypothesis -Methods/Approach -Expected Results -Research Impact	Research proposal slide assigned
4 (ES032)	July 24 (Tuesday) 1:30-3:00pm	Problem Session	Writing a research proposal Individual discussion Slide preparation	Informal presentation/discussion
5 (ES032)	July 25 (Wednesday) 10:30-12:00am	Lecture 3	Key to effective research presentation How to prepare a research poster	
6 (ES032)	July 25 (Wednesday) 3:00-5:00pm	Project Presentation	Oral presentation (10 min each) Q & A (2 min each)	
	July 27 (Friday)		Assignments Due by 5pm	(1) 600-word report file (2) PowerPoint slide file

Course Format:

The course has 3 morning lectures, 2 afternoon problem sessions, and 1 final presentation. The lecture entails the instructor's course material presentation and interactive discussions between the instructor and students. In the problem session, the students are asked to write a short research proposal while consulting with the instructor. Based on the instructor's advice, the students iteratively edit their writings. In the final presentation, each student makes an oral slide presentation to the class and answer questions from the audience.

Course Assignments:

The students are required to do the followings as the course assignments:

1. Submit a 600-word report of his/her research project following the logical structure taught in the course.
2. Prepare a PowerPoint slide briefly showing his/her research proposal.
3. Orally present his/her research proposal in class.

These assignments are finally submitted to the students' advisors at Nagoya University for their feedback.

Course Assignment Policies:

1. You may discuss the assignments with your classmates and instructor. But you are asked to independently prepare your report and presentation.
2. Your assignments are collected at the end of the course and due on **July 27 (Fri) at 5pm**. The assignments are turned in to both the instructor and your advisor at Nagoya University by email as electronic file attachments. No late submission, unless the student notifies the instructor one day prior to the due date. It is the instructor's discretion to accept or decline the request for late submission.