Course Title Discussion Leading & Organizing

Course Term First semester

Credit 1

Contact Information:

Assoc. Prof. Shuichi Matsukiyo (matsukiy@esst.kyushu-u.ac.jp)

Course Description

The Discussion Leading and Organizing course is designed to practically train students how to control and/or stimulate discussions. Apart from logical thinking, effective discussion requires several skills, such as comprehensive ability to detect essential points, wide knowledge to relate several topics, and sensibility to follow audiences' interests. In this course, students will learn those skills through providing "seed questions" to stimulate discussions at seminars or meetings.

At an inner-lab seminar or an akin meeting, the student should provide seed questions just after a talk presented by another person. The questions should cover essential points of the presentation, and also interests of the audience. At the end of the seminar, the mentor professor evaluates those questions based on how discussion with the audience was stimulated by them. The seminars or meetings should be held at least once a month, in order to keep opportunities of training for the students.

Concrete topics of this course include:

Logical consistency of the presentation

Comprehensive ability to sort essential and trivial points of the presentation

Wide knowledge to expand topics toward the related issues, such as practical examples and similar ideas in different fields of science and engineering

Distinguish different interests from different audiences

Course Outline

Series of seminars or meetings, at least once a month; contact the mentor professor

Discussion Leading & Organizing ガイドライン（指導教員向け）

Discussion Leading & Organizing の科目では，普段の研究室のセミナーや非公式な研究会などを利用して，学生に「有意義な議論の進め方」を体得させることを目的としています。個々の議論において論理の正確さが必要なのはもちろんですが，さらに討議を有意義なものにするためには，どのような論点を選ぶかが重要になります。提供されている話題において，瑣末な確認事項でなく本質的な論点を抽出したり，参加者の興味を考慮して論点を選んだり，関連した話題を豊富に提供したりすることで，議論に幅をもたせ密度の濃い討論が可能となります。これらは，単身学習ではなく，セミナーや研究会でこそ体験できる内容です。

・実施方法について

対象学生以外の人が発表者となっているセミナー・研究会において，発表の直後に対象学生から 2-3 個の Seed Questions を提出させます。発表者および聴衆は，この Seed Questions に対する応答を元に議論をします。もちろん，対象学生自身がこの議論に加わっても構いません。Seed Questions に端を発する議論が，どの程度広がりを持って活発に行われたかを毎回指導教員は評価し，具体的な改善点を例示して下さい。

少なくとも月に 1 度は，この形式のセミナー・研究会を開催し，当該学生が練習する機会を与えて下さい。特に，聴衆の構成（学部学生・修士学生が主体か，教員が主体か，外部の研究者が主体か等）が異なるセミナー・研究会を経験させることで，聴衆によって興味を持つ対象が変わることも理解できるようにしてください。

もちろん，学生による Seed Questions の設定ができない公式な研究会等で行う必要はありません。

・評価について

発表の本質的な部分に切り込んだ質問であったり，別の分野や地域での似た技術や応用例との関連性に関する質問であったり，聴衆が聞きたかった内容についての質問であれば，その後に活発な議論が展開されていくと期待されます。逆に，明らかに瑣末な内容への執拗な質問や，聴衆を置き去りにするような的外れな質問だと，それに続く議論は期待できません。Seed Questions を出した本人にもその場で結果が明白に分かりますので，指導教員は具体的な改善例を示しながら評価してください。

なお，発表内容や聴衆の組み合わせによっては，指導教員ですら Seed Questions を作るのが難しい場合もありますので，評価は状況を考慮して柔軟に行ってください。

問い合わせ先

筑紫地区教務課 (srkkyomu@jimu.kyushu-u.ac.jp)

もしくは

大気海洋環境システム学専攻　松清修一　准教授　（matsukiy@esst.kyushu-u.ac.jp）

Course Title Conference Design & Organizing
Course Term Second semester
Credit 1
Contact Information Assoc. Prof. Osama Eljamal (osama-eljamal@kyudai.jp)

Course Description

The Conference Design and Organizing course is designed to train students involved in leadership positions and conference planning. The Course offers students an opportunity to apply, improve and reflect on their personal leadership skills and styles. This course integrates practical work with academic work. The course is formed to help students learn the art of conference planning while serving in positions responsible for conferences on campus. Further students will participate in reviewing of manuscripts submitted for conference and help in searching of suitable guest speakers.

Concrete topics of this course include:

- Write down conference goals
- Design conference schedule
- Choose the conference venue
- Select suitable guest speakers
- Circulation of conference information (call for papers)
- Assign submitted papers for review by relevant reviewers
- Contribute to conference committee meeting

Course Outline

April 11, 2019	introductory guidance and lecture for conference design and organizing
April 25, 2019	1st conference committee meeting (plan, task allocation, venue, conference schedule and call for papers)
May 16, 2019	2nd conference committee meeting (call for papers, review process and Keynote speakers)
May 30, 2019	3rd conference committee meeting (review process, and conference proceedings)
June 7, 2019	4th conference committee meeting (Keynote speakers and conference program)
June 27, 2019	5th conference committee meeting (Printed materials and conference proceedings)
July 12, 2019	6th conference committee meeting (Beverages, gifts, certificates and final program)
October 17, 2019	7th conference committee meeting (task allocation for conference day and Final approval)
October 24-25, 2019	Conference day(participate in the conference)

- ***IEI program students must attend the IEICES 2018 to get an experience about how can they plan and manage IEICES 2019.***

4th International Exchange and Innovation Conference on Engineering & Sciences, IEICES 2018

Date: October 18th, 19th, 2018 (9:30 ~18:00)
Venue: Chikushi Hall, C-CUBE

Course Title

Journal Running & Handling

Course Term: First semester

Credit 1

Contact Information:

Prof. Bidyut Baran Saha (saha.baran.bidyut.213@m.kyushu-u.ac.jp) Editor-in-Chief of ***Evergreen***
Assoc. Prof. Hiroshi Tashima

Course Description

This course will provide practical training regarding how to write a journal article and journal management (journal running and handling) as an assigned editor, and covers a series of journal operation activities of an editorial board member. The student will participate in reviewing of manuscripts submitted for Evergreen journal, help in searching of suitable reviewers, approaching potential authors, promote the journal to authors and readers. Each student will be assigned as a guest associate editor for one article and a referee for peer reviewing of at least 1 article.

This course will be advanced in cooperation with ***Evergreen - Joint Journal of Novel Carbon Resource Sciences & Green Asia Strategy***.

Full attendance during the editorial board meeting is mandatory.

Concrete topics of this course include:

- Circulation of CFP (call for papers)
- Assign submitted papers for peer review by relevant reviewers
- Peer review of papers and recommendation regarding publication
- Promote the journal - encourage submissions of papers from colleagues (including yourself) and relevant experts from your research field
- Cite ***Evergreen*** journal paper(s) in your research papers
- Encourage citation of ***Evergreen*** papers by your colleagues and co-workers
- Encourage usage of ***Evergreen*** journal in your laboratory and relevant departments for research and academic studies
- Contribute to editorial board meeting, not only regular issue of ***Evergreen*** journal but also special issue in relation to international conferences supported by IGSES.

Course Outline

In the first class, dated on 16 Oct. 2018 Introductory guidance and lecture

In the second class, dated on 23 Oct. 2018 How to write a paper in peer reviewed journal

In the third class, dated on 06 Nov. 2018 Call for Papers for Evergreen

In the fourth class, dated on 27 Nov. 2018 1st Editorial board meeting (first round of review process, handling a journal paper as an assigned associate editor)

In the fifth class, dated on 11 Dec. 2018 2nd Editorial board meeting (2nd round review process, proof reading, etc.)

In the 3rd week of January 2019 3rd Editorial board meeting (publication of Vol. 5, Issue 1 of Evergreen)

Information

Evergreen - Joint Journal of Novel Carbon Resource Sciences & Green Asia Strategy

http://www.tj.kyushu-u.ac.jp/leading/en/evergreen.php

Course Title

Industrial Structure of Japan
: *Historical and contenporary views of industrializaion of Japan - through academic activities.*

Credit 1
Lecturer Masatoshi Takao

Contact Information

Assoc. Prof. Maiko Nishibori (nishibori.maiko.511@m.kyushu-u.ac.jp)

Course Description

Industry structure of Japan：historical view of industrialization of Japan for two hundred years and present situation. Keywords; Promotion or evasion between academy and industry collaboration. Japanese industry structure evolution from meiji to heisei eras. Reconstruction from defeat of world war II, High economic growth period, Home-appliance spreading in Japan, New industries, Bubble economy and successive 20 years deflation, Failure of economic growth recovery, Linea and bi-directional-horizontal models of R&D activities, Role of early RIKEN, Open and close R&D management, Left hand law by TAKAO, Stage management of R&D, From basic research to both technology and social innovation, Close and open R&D system, etc.・・・・・

Concrete topics of this course include:

・Research and development management view by Takao as a physicist.

Course Outline

Time:

1. Nov. 26 13:00～14:30
2. Nov. 26 14:50～16:20
3. Nov. 26 16:40～18:10
4. Nov. 27 8:40～10:10
5. Nov. 27 13:00～14:30
6. Nov. 27 14:50～16:20
7. Nov. 28 10:30～12:00
8. Nov. 28 13:00～14:30

Place:

To Be Determined

Course Title
Fundamentals of Japanese Communication

Credit 1

Contact Information
Associate Prof. KOYAMA, Satoru (koyama.satoru.188@m.kyushu-u.ac.jp)

Course overview
The main purposes of this course are for students to be able:
(1) to communicate in Japanese language;【communication】
(2) to gain knowledge and understanding of Japanese culture;【cultures】
(3) to connect with other disciplines and acquire information;【connections】
(4) to develop insight into the nature of Japanese language and culture;【comparisons】
(5) to participate in communities within and beyond the school setting.【communities】

Course objectives
For this purpose, students are expected:
(1) to learn contemporary Japanese linguistics;
(2) to learn Japanese cultural traits;
(3) to learn Japanese language learning strategies.

By the end of this semester, students will
(1) be able to communicate with other people in Japanese without too much difficulty;
(2) become more interested in Japanese culture and society;
(3) be able to continue Japanese language study without teacher's help.

Course Plan（Details will be explained at the first class）
1. Oct 2（C-Cube 301）火曜日 Tuesday 16:40～18:10
2. Oct 4（E Building 101）木曜日 Thursday 16:40～18:10
3. Oct 11（E Building 101）木曜日 Thursday 16:40～18:10
4. Oct 25（E Building 101）木曜日 Thursday 16:40～18:10
5. Nov. 1（E Building 101）木曜日 Thursday 16:40～18:10
6. Nov. 15（E Building 101）木曜日 Thursday 16:40～18:10
7. Nov. 29（E Building 101）木曜日 Thursday 16:40～18:10
~~8. Dec. 6（E Building 101）木曜日 Thursday 16:40～18:10~~
The Lecture of Dec.6 is cancelled.(Make-up Class is to be determined.)
9. Dec. 13（E Building 101）木曜日 Thursday 16:40～18:10
10. Dec. 20（E Building 101）木曜日 Thursday 16:40～18:10
11. Jan. 8（C-Cube 301）火曜日 Tuesday 16:40～18:10
12. Jan. 10（E Building 101）木曜日 Thursday 16:40～18:10
13. Jan. 17（E Building 101）木曜日 Thursday 16:40～18:10
14. Jan. 24（E Building 101）木曜日 Thursday 16:40～18:10
15. Jan. 31（E Building 101）木曜日 Thursday 16:40～18:10

１月以降は受講生と相談し、火曜５限か木曜５限の日程で再調整する場合がある。

Textbook
Handout
Evaluation
Class activity 40%, Homework 40%, Final exam 20%
Study consultation
Tuesday 15:30-16:30
Reference Book
‘Minna no Nihongo vol.1 Grammar Book’（English, 中国語, 韓国語, German, French, Spanish, Portuguese, Italian, Russian, Thai, Indonesian, Vietnamese）

Moodle：https://m2b.s.kyushu-u.ac.jp/en/index.html

Course Title

Practical Internship

Course Term

TBD in consultation with your supervisor

Credit 1

Contact Information:

Receive the guidance from the supervisor
Query for the process: Assoc. Prof. Tadahiro Kin (kin@aees.kyushu-u.ac.jp)

Course Description

This course will provide practical training to learn the latest situations in actual Japanese job sites. The student will participate in a short term internship held in a domestic company to experience the actual job situation in Japan. The student will find a domestic company admitting the internship for foreign students with the guidance of the supervisor. It is possible to deepen the understanding of practical manufacturing, research and development in Japanese companies by taking this course.

Concrete topics of this course include:

- Finding the company admitting the internship for foreign students and applying to the internship with the guidance of the supervisor
- Information gathering for the company and the Japanese job site
- Participation in the internship, which is held in a domestic company
- Reporting what the student did and learned in the internship to the supervisor

Course Outline

The schedule is not determined yet.

Information

Consult the supervisor and the employment advisor in each department for the internship

Practical Internship ガイドライン（指導教員向け）

Practical Internship の科目は IEI コース生に日本における実際の職場環境を体験してもらい、ものつくりのコアと産業現場を通じての日本理解を深めることを目的とします。実施時期は任意とします。

・インターンシップ受け入れ先について
インターンシップ受け入れ先は指導教員が責任を持って見つけてください。
トラブルを避けるために企業とのやりとりは教員が間に入って行ってください。
インターンシップ先は日本国内の企業で、一日以上現地に赴くことを条件とします。
企業の選択については、理工学系の仕事を体験できるものが望ましいですが、学生の希望を聞いたうえで、教育上の観点に沿い本コースの趣旨に反しないものであれば、指導教員の判断のもとインターンシップ先として選択することができます。
インターンシップ先を探すことが困難な場合は、授業開講時に教務課までお知らせください。

・提出書類について
インターンシップ開始前にインターンシップ届（所定書式 1）を教務課へ提出ください。
インターンシップ終了後、(a)レポート（所定書式 2）及び(b)受け入れ先企業からの就業状況に関する報告書（所定書式 3 もしくは同様の内容を含むもの）を指導教員へ提出させてください。また指導教員列席のもと研究室内で口頭発表会を開き、その結果に基づき指導教員が(c)成績評価を含む報告書（所定書式 4）を作成ください。そして(a), (b), (c)の書類を教務課に提出ください。

問い合わせ先
先端エネ専攻　金　政浩准教授 (kin@aees.kyushu-u.ac.jp)
もしくは
筑紫地区教務課 (srkkyomu@jimu.kyushu-u.ac.jp)

Course Title

Fundamentals on Interdisciplinary Engineering Sciences - Material, Energy, Environment

Course Term

First semester

Credit 2

Contact Information:

Assoc. Prof. Masaru Itakura (itakura@kyudai.jp)

Course Description

This course is designed to give a broad introduction to the issues included in the "Interdisciplinary Engineering Sciences, Material, Energy, and Environment". As the energy and environmental problems have become complicated and interconnected, collaboration with different professionals are needed and students must have a broader knowledge and capability to tackle such problems. The lecture will be given in an omnibus style by leading researchers in the five departments in the faculty of Interdisciplinary Graduate School of Engineering Sciences, including Applied Science for Electronics and Materials (ASEM), Molecular and Material Sciences (MMS), Advanced Energy Engineering Sciences (AEES), Energy and Environmental Engineering (EEE), and Earth System Science Technology (ESST). Each department will deliver three lectures as one module. As a consequence, this course is composed of 15 sessions in total. Grades can be assigned as a number out of 100. Representatives of the each department need to report the grades of the course attendees. Each lecturer can ask the attendees short essay or make a quiz to assess their achievements.

Schedule (2018)

	Days	Begin time	Location	Dept.	Lecturer	Topic
1	Oct. 10	8:40	Soriko1	ASEM	Satoshi Hata	Some topics on advanced electron microscopy
2	Oct. 17	8:40	Soriko1	ASEM	Minoru Nishida	Phase Transformations in Metals and Alloys
3	Oct. 24	14:50	Soriko1	ASEM	Kungen Teii	Introduction to power semiconductors and devices
4	Oct. 31	8:40	Soriko1	MMS	Takeshi Nakagawa	Small, but strong magnet
5	Nov. 7	8:40	Soriko1	MMS	Mitsugu Todo	Application of Mechanics to Medicine - How to predict the bone strength of osteoporotic patients –
6	Nov. 14	8:40	Soriko1	MMS	Yoichiro Kuninobu	Development of C-H Bond Transformations Directed Towards the Synthesis of Organic Functional Molecules
7	Nov. 19	13:00	Soriko1	ESST	Osama Eljamal	Environmental Engineering and Science: Fundamentals and Applications
8	Nov. 21	8:40	Soriko1	EEE	Hooman Farzaneh	Devising a Clean Energy Strategy for Asian Cities, lesson learned from real case studies
9	Nov. 28	8:40	Soriko1	EEE	Kyaw Thu	Mechanical Vapor Compression Systems and Next Generation Refrigerants
10	Dec. 5	8:40	Soriko1	EEE	Hiroshi Tashima	General Perspective of Internal Combustion Engines based on Similarity Law
11	Dec.12	8:40	Soriko1	AEES	Kenichi Hashizume	Introduction to nuclear materials
12	Dec. 19	8:40	Soriko1	AEES	Yukinobu Watanabe	Nuclear transmutation and its application to reduction of high-level radioactive waste
13	Jan. 9	8:40	Soriko1	AEES	Nobuya Hayashi	Discharge and plasma application studies
14	Jan. 23	8:40	Soriko1	ESST	Tohru Hada	Space Plasma Environment
15	Jan. 30	8:40	Soriko1	ESST	Shigeo Yoshida	Wind Energy Basics

Course Title Doctoral Research

Course Term All semesters

Credit 2

Contact Information Mentor professor

Course Description

This course is intended to familiarize doctoral students with basic research concepts and their application in conducting educational research. Further, this course is designed to help doctoral students make some of the decisions for their own research proposals. Consequently, students will become familiar with tools that enable them to determine the best approach for a problem they wish to investigate, the nature of their research objectives, and the constraints of the research problem. Students will broaden their knowledge of how to access, understand, and evaluate research reports.

Concrete topics of this course include:

- Distinguish between opinion articles and reports of systematic research.
- Explore the trends and issues related to the development of a research proposal.
- Develop an understanding of the various components of an effective research proposal.
- Gain familiarity with a variety of qualitative and quantitative data collection and analysis techniques.
- Identify a research problem within study field of concentration, to generate appropriate research questions, and to explore the choice of an appropriate methodology and design
- Explore issues in designing a clearly focused, defensible research project
- Describe the Principles underlying randomized experiments and their advantages for making casual inferences.
- Select appropriate measures for assessing outcomes, describing implementation fidelity, and capturing process variables.

Course Outline

Fundamentals of Research
Selecting a Problem and Preparing a Research Proposal
The Research Report
Evaluating a Research Report
Basic Research Designs, Ethical Consideration and Report Writing
Qualitative research
Methods and Tools of research
Data Analysis – Quantitative & Qualitative
Approaches to Educational Research Design

Course Title Exercise for Doctoral Thesis

Course Term All semesters

Credit 4

Contact Information Mentor professor

Course Description

Completing a thesis successfully is the last and often most challenging part of doctoral studies. The goal is to put one's theoretical knowledge and research proficiency to practical test by carrying out an independent project producing an original piece of research and making a significant contribution to solving a problem and expanding the knowledge base in the specific discipline. While research is an ongoing process, in which one is expected to stay on top of the relevant developments in the discipline, the assumption is that students are capable of thinking through the important milestones in the thesis process and developing a thesis prospectus that spells out the core concepts and questions as well as the designs of research and the structure of intended thesis.

Concrete topics of this course include:

- Apply theoretical and methodological understanding and skills into devising researchable ideas and specific research questions and hypotheses
- Conduct a focused review of the relevant literature and create appropriate conceptual framework
- Develop a realistic research design with specific research strategies
- Think through and articulate a chapter-by-chapter outline of the intended a thesis
- Communicate research ideas and their appropriate theoretical and methodological issues effectively and efficiently
- Critique other's ideas paying particular attention to both theoretical and methodological rigor and reality
- Gain understanding of the process of thesis including stress, time, and project management, committee formation, thesis proposition and defense, and human subjects reviews.

Course Outline

Thesis: Expectation
Problems and Questions
Literature Review
Research Design
Analysis, Writing, and Ethical Considerations
Presentation and Wrap up

Course Title

Research Internship Ⅲ

Course Term

TBD in consultation with your supervisor

Credit 2

This course is not compulsory. You can take other lectures instead of this course.

Contact Information:

Receive the guidance from the supervisor

Query for the process: Assoc. Prof. Tadahiro Kin (kin@aees.kyushu-u.ac.jp)

Course Description

This course will provide research experiences to learn the forefront of science and technology in Japan. The student will participate in a medium-term internship (one to two months) held in a domestic research institute or company to experience the research in Japan. The student will find a domestic research institute or company admitting the internship for foreign students with the guidance of the supervisor.

Concrete topics of this course include:

- Finding the research institute or company admitting the internship for foreign students and applying to the internship with the guidance of the supervisor
- Information gathering for the research institute or company and the forefront of science and technology in Japan
- Participation in the internship, which is held in a domestic research institute or company
- Reporting what the student did and learned in the internship to the supervisor

Course Outline

The schedule is not determined. It depends on the individual cases.

Information

Consult the supervisor and the employment advisor in each department for the internship

Research Internship Ⅲガイドライン（指導教員向け）

Research Internship Ⅲの科目は専攻により必要性の度合いが異なるため選択科目です。
IEI コース生に対して下記の条件を満たしたものに２単位が与えられます。
この科目は必修ではありません。他の講義などを２単位分受講しても構いません。

条件
１．受入れ機関：国内研究機関や企業等
２．派遣期間：１～２ヶ月間　（実施時期は任意）

・インターンシップ受入れ先について
インターンシップ受入れ先は指導教員が責任を持って見つけてください。
トラブルを避けるために受入れ機関とのやりとりは教員が間に入って行ってください。
受入れ機関の選択については、学生の希望を聞いたうえで、教育上の観点に沿い本コースの趣旨に反しないものであれば、指導教員の判断のもとインターンシップ先として選択することができます。

・提出書類について
インターンシップ開始前にインターンシップ届（所定書式 1）を教務課へ提出ください。
インターンシップ終了後、(a)レポート（所定書式 2）及び(b)受入れ機関からの就業状況に関する報告書（所定書式 3 もしくは同様の内容を含むもの）を指導教員へ提出させてください。また指導教員列席のもと研究室内で口頭発表会を開き、その結果に基づき指導教員が(c)成績評価を含む報告書（所定書式 4）を作成ください。そして(a)，(b)，(c)の書類を教務課に提出ください。

・問い合わせ先
担当教員：先端エネルギー理工学専攻
金　政浩准教授（kin@aees.kyushu-u.ac.jp）

事務担当：筑紫地区教務課（srkkyomu@jimu.kyushu-u.ac.jp）

Course Title
Practical research skills development

Course Term
TBD in consultation with your supervisor

Credit 2
This course is not compulsory. You can take other lectures instead of this course.

Contact Information:
Receive the guidance from the supervisor
Query for the process: Prof. Yuichi Harada (yharada@gic.kyushu-u.ac.jp)

Course Description
Over the master's and doctoral courses, you have to develop knowledge and skills that equip you to undertake independent research at the front of your field. This course provides you how to develop your research skills practically. Therefore, the lecture is composed of general talks on scientific skills for a research project and your tailored case study which is based on your own MD or PhD research project. The scope of this lecture covers not only deepening into your research study, but also considering how to develop the research project into practical applications, such as a product or service, and even building up a start-up.
This lecture requires you to dig deeply into your research project as homework.

Concrete topics of this course include:
research management, research methodology, innovation, intellectual property right, carrier development, entrepreneurship

Course Outline
The outline is as follows:
No. 1: Introduction to this course
No. 2: Understanding on a research subject and how to develop its methodology
No. 3: How to solve a research subject
No. 4: What is the conclusion of a research project
No. 5: Future development on a research subject
No. 6: R&D processes from your curiosity to business development or a product
No. 7: Carrier development - the talk from an expert -
No. 8: Presentations and wrap-up

Time:
14:50-18:10 on 19th, 26th of October, 2nd,9th, 16th, 22th and 30th of November
10:00-12:00 on 10th of December
Place:
E-building 101
Information
Consult the supervisor and the employment advisor in each department for the internship