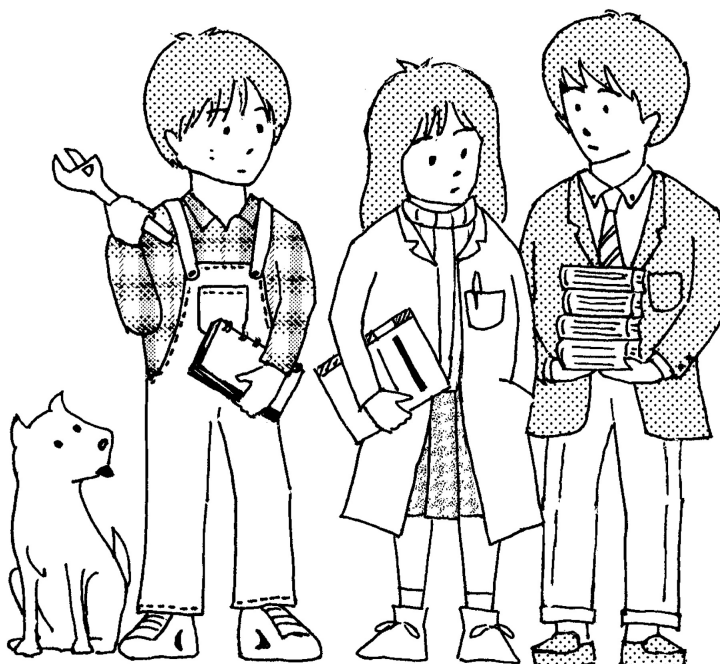


SYLLABUS

2016

Common Subjects of Faculty of Engineering



Kyoto University, Faculty of Engineering

Common Subjects of Faculty of Engineering

Common Subjects of Faculty of Engineering

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Introduction to Engineering

工学序論

【Code】 21080 【Course Year】 1st year 【Term】 【Class day & Period】 【Location】 【Credits】 1

【Restriction】 No Restriction 【Lecture Form(s)】 【Language】 【Instructor】 ,

【Course Description】

【Grading】

【Course Goals】

【Course Topics】

Theme	Class number of times	Description
	1~2	
	6	

【Textbook】

【Textbook(supplemental)】

【Prerequisite(s)】

【 】

【Web Sites】

【Additional Information】

Engineering and Economy(in English)

工学と経済（英語）

【Code】22210 【Course Year】 【Term】 【Class day & Period】 【Location】 【Credits】2 【Restriction】 【Lecture Form(s)】

【Language】English 【Instructor】,

【Course Description】 The purpose of this course is to teach economy from an engineer viewpoint. The course especially contains such economic topics which engineer can use to solve practical engineering economy problems. The course is consisted of lectures and additional exercises, of which the student should complete five (5) written short reports and five (5) 60 minutes laboratory session attendances. The laboratory sessions are held weekly after the lecture, and consist of interactive group work tasks. Laboratory sessions are held weekly from 18 to 19 o'clock.// The course is aimed for both Japanese and Foreign nationals.// The course starts on October 4th.

【Grading】 Test, reports, laboratory performance.

【Course Goals】 This course will provide tasks for engineering students to be able to understand relationships between engineering and engineering economy. Students will learn solving economic problems related to engineering project at various levels. The course also prepares the students to write engineering related economic topics in English as well as verbally express themselves of these subjects.

【Course Topics】

Theme	Class number of times	Description
Student orientation, Introduction to engineering economy	1	Course introduction; Principles of engineering economy
Cost concept	1	Cost terminology; Competition; Total revenue function; Breakeven point
Design economics	1	Cost-driven design; Making vs. purchasing; Trade-offs
Cost estimation techniques I	1	Integrated approach and WBS; Index, unit, and factor techniques
Cost estimation techniques II	1	Parametric estimating; Power-sizing technique; Learning curve; Cost estimation, bottom-up, top-down, target costing
The time value of money I	1	Simple interest; Compound interest; Equivalence concept; Cash-flow diagrams
The time value of money II	1	Present and future equivalent values of single cash flows
The time value of money III	1	Uniform series cash flows; Deferred annuities; Uniform gradient cash flows; Nominal and effective interest rates
Evaluation of a single project I	1	Determining minimum attractive rate of return (MARR); The present worth method; Bond value; Capitalized-worth method
Evaluation of a single project II	1	The future worth method; The annual worth method; The internal rate of return method; The external rate of return method
Comparison and selection among alternatives I	1	Basic concepts; The study (analysis) period; Useful lives are equal to the study period
Comparison and selection among alternatives II	1	Useful lives are unequal to the study period; Repeatability; Cotermination; The imputed market value technique
Income taxes and depreciation	1	Concepts and terminology; Depreciation; Straight-line method; Declining-balance method; Income taxes; Marginal tax; Gain or loss on the disposal of an asset; After-tax economic analysis
Final test	1	The test is based on the above topics

【Textbook】 Sullivan, Wicks, Koelling; Engineering Economy, 15th Ed. 2012, Chapters 1-7.

【Textbook(supplemental)】

【Prerequisite(s)】 Note:

- Interactive lessons (discussion), Small group working method
- This course is held in English.

【】

【Web Sites】 None

【Additional Information】 If you have any questions or need further information, feel free to contact at 090aglobal@mail2.adm.kyoto-u.ac.jp.

Global Leadership Seminar I

G L セミナー (企業調査研究)

【Code】24010 【Course Year】 【Term】 【Class day & Period】 【Location】 【Credits】1 【Restriction】

【Lecture Form(s)】 【Language】Japanese 【Instructor】 ,

【Course Description】

【Grading】

【Course Goals】

【Course Topics】

Theme	<small>Class number of times</small>	Description
	1	
	2~3	
	2~3	
	12	
	3~4	
	1	
	1	

【Textbook】

【Textbook(supplemental)】

【Prerequisite(s)】

【 】

【Web Sites】

【Additional Information】

Global Leadership Seminar II

G L セミナー (課題解決演習)

【Code】25010 【Course Year】 【Term】 【Class day & Period】 【Location】 【Credits】1 【Restriction】

【Lecture Form(s)】 【Language】 【Instructor】 ,

【Course Description】

【Grading】

【Course Goals】

【Course Topics】

Theme	Class number of times	Description
	1	
	2	
	1	
	3	
	7	
	1	
	1	

【Textbook】

【Textbook(supplemental)】

【Prerequisite(s)】

【 】

【Web Sites】

【Additional Information】

International Internship of Faculty of Engineering I

工学部国際インターンシップ 1

【Code】 24020 【Course Year】 【Term】 【Class day & Period】 【Location】 【Credits】 1 【Restriction】

【Lecture Form(s)】 Exercise 【Language】 English, et al.

【Instructor】 Faculty of Engineering, Professor, Hitoshi Mikada and the related faculty members

【Course Description】 Acquisition of international skills with the training of foreign language through the to internship programs hosted by the University, the Faculty of Engineering, or the Departments in the Department.

【Grading】 Marit rating is done based on the presentation or reports after each internship program. Each D epartment responsible to identify if the credit earned by this subject to be included as mandatory ones or not. If the credit is not included in the department in which the participant belongs to, the credit is granted by the Global Leadership Education Center as a optional credit. The number of credits, either 1 or 2, will be determined depending on the contents and the duration of the program that the participant has participated in.

【Course Goals】 The acquisition of international skills with the training of foreign language through the to internship programs hosted by the University is the major expectation to the students.

【Course Topics】

Theme	Class number of times	Description
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【Textbook】

【Textbook(supplemental)】

【Prerequisite(s)】

【 】

【Web Sites】

【Additional Information】

International Internship of Faculty of Engineering 2

工学部国際インターンシップ 2

【Code】 25020 【Course Year】 【Term】 【Class day & Period】 【Location】 【Credits】 2 【Restriction】

【Lecture Form(s)】 Exercise 【Language】 English, et al.

【Instructor】 Faculty of Engineering, Profesor, Hitoshi Mikada, and the related faculty members

【Course Description】 Acquisition of international skills with with the training of foreign language through the participation to the international internship programs held by the Faculty of Engineering or its subsidiary bodies.

【Grading】 Marit rating is done based on the presentation or reports after each internship program. Each D epartment responsible to identify if the credit earned by this subject to be included as mandatory ones or not. If the credit is not included in the department in which the participant belongs to, the credit is granted by the Global Leadership Education Center as a optional credit. The number of credits, either 1 or 2, will be determined depending on the contents and the duration of the program that the participant has participated in.

【Course Goals】 The acquisition of international and foreign language skills through the participation to international programs is expected. Detailed objectives of the participation should be identified by each program.

【Course Topics】

Theme	Class number of times	Description
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【Textbook】

【Textbook(supplemental)】

【Prerequisite(s)】

【 】

【Web Sites】

【Additional Information】

工学部シラバス 2016 年度版
(Common Subjects of Faculty of Engineering)
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2016 年 4 月 1 日発行 (非売品)

編集者 京都大学工学部教務課
発行所 京都大学工学部
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デザイン 工学研究科附属情報センター

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- ・ Common Subjects of Faculty of Engineering
- ・ [A] Global Engineering
- ・ [B] Architecture
- ・ [C] Engineering Science
- ・ [D] Electrical and Electronic Engineering
- ・ [E] Informatics and Mathematical Science
- ・ [F] Industrial Chemistry
- ・ オンライン版 <http://www.t.kyoto-u.ac.jp/syllabus-s/>

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