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MINUTES OF MEETING
BETWEEN
JAPAN INTERNATIONAL COOPERATION AGENCY
AND
THE AUTHORITIES CONCERNED OF
THE ROYAL GOVERNMENT OF CAMBODIA
ON
THE PROJECT FOR HUMAN RESOURCE
DEVELOPMENT FOR INDUSTRY

The Detailed Planning Survey Team (hereinafter referred to as “the Team”) organized by the Japan International Cooperation Agency (hereinafter referred to as “JICA”), headed by Dr. Junichi Takada, conducted a survey from July 24th to August 5th, 2011, for the purpose of the implementation of the Technical Cooperation Project for “Educational Capacity Development of Institute of Technology of Cambodia” (hereinafter referred to as “the Project”).

During its stay in the Kingdom of Cambodia, the Team had a series of discussions with the authorities concerned of the Royal Government of Cambodia, jointly developed idea and exchanged views on the Project.

As a result of the discussions, both sides agreed the matters referred to in the document attached hereto.

Phnom Penh, August 5, 2011

Prof. Dr. Junichi TAKADA

Leader

Detailed Planning Survey Team

Japan International Cooperation Agency

Japan

H.E. Dr. Sackona PHOEURNG

Secretary of State

Ministry of Education, Youth and Sports

Kingdom of Cambodia

Dr. Romny OM

Director

Institute of Technology of Cambodia

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I. BACKGROUND

The share of industrial sector in GDP in Cambodia is limited to 22%, and major industries are garment and construction industries. The diversification of industries and expansion of mineral industry are regarded as necessary steps for further economic growth of Cambodia.

The Royal Government of Cambodia (hereinafter referred to as "RGC"), with its National Development Strategy named "Rectangular Strategy", is making efforts for the promotion of trade and investment, development of small & medium sized companies, and development of human resources with skills matching to the needs of the labor market. However, business community including foreign investing companies is facing the shortage of engineers and technicians who can manage or design the production lines of factories.

On the other hand, development of mineral resources is progressing in recent years in Cambodia because of the improvement of technology and the progress of removal of landmines.

Under these circumstances, RGC requested the Government of Japan for assistance to improve educational capacity of ITC. Responding to this request, the Detailed Planning Survey team was dispatched to Cambodia to discuss and agree on a framework of the technical cooperation project with the Cambodian side.

II. OUTLINE OF THE PROJECT

1. Title of the Project

Project for Educational Capacity Development of Institute of Technology of Cambodia

2. Overall Goal

Graduates with stronger practical skills are developed by the target departments of ITC (Electrical and Energy Engineering, Industrial and Mechanical Engineering, and Geo-resources and Geotechnical Engineering)

3. Project Purpose

The quality of education is improved with more emphasis on practice and experiments at the target departments of ITC as a leading university.

4. Outputs

- (1) Syllabus for course works is improved with more practice and experiments.
- (2) Teaching method of academic staff is enhanced to conduct practice-oriented

education.

(3) Equipment for experiments is properly utilized for practice and experiments.

5. Activities

1-1. Set up a taskforce for syllabus revision.

1-2. Review and revise syllabus and instruction for practices and experiments.

1-3. Conduct a periodical review on the implementation of the revised syllabus and instruction for practices and experiments.

2-1. Train academic staff by model teaching by Japanese and/or ASEAN country experts.

2-2. Train academic staff by joint research activities with Japanese and/or ASEAN country experts.

2-3. Conduct Faculty Development activities to share good practices in teaching among academic staff

3-1. Set up a taskforce for utilization of equipment.

3-2. Develop a regulation for utilization of equipment.

3-3. Conduct a periodical review on utilization of equipment by the taskforce.

6. Input

(1) Input by JICA

(a) Dispatch of Experts

Experts will be dispatched according to the necessity for the implementation of the Project. Tentative plan is as follows:

- Long-term experts in the fields of Chief Advisor and Project Coordinator

- Short-term experts in the three target fields, namely, Electrical and Energy, Industrial and Mechanical, and Geo-resources and Geotechnical Engineering

(b) Short-term training of academic staff of ITC in Japan

(c) Machinery and equipment necessary for the implementation of the Project. The detailed specification and quantity of equipment to be provided each year will be discussed in principle every year between JICA experts and Cambodian counterpart personnel, based on the annual plan of the Project, within the allocated budget of the Japanese Fiscal Year (JFY: start in April and end in March).

(2) Input by Cambodia (MoEYS and ITC)

MoEYS and ITC will take necessary measures to provide at its own expense:

(a) Services of MoEYS's and ITC's counterpart personnel and administrative personnel as referred to in II-7;

- (b) Suitable office space with necessary equipment;
- (c) Supply or replacement of machinery, equipment, instruments, vehicles, tools, spare parts and any other materials necessary for the implementation of the Project other than the equipment provided by JICA;
- (d) Information as well as support in obtaining medical service;
- (e) Credentials or identification cards;
- (f) Available data (including maps and photographs) and information related to the Project;
- (g) Running expenses necessary for the implementation of the Project;
- (h) Expenses necessary for transportation within Cambodia of the equipment referred to in II-6(c) as well as for the installation, operation and maintenance thereof; and
- (i) Necessary facilities to the JICA experts and members of the JICA missions for the remittance as well as utilization of the funds introduced into Cambodia from Japan in connection with the implementation of the Project.

7. Implementation Structure

The Project organization chart is given in the Annex 3. The roles and assignments of relevant organizations are as follows:

(1) MoEYS

(a) Secretary of State, MoEYS, as the Project Director, will be responsible for overall management of the Project.

(2) ITC

(a) Director of Institute of Technology of Cambodia, as the Project Manager, will be responsible for administration and implementation of the Project.

(b) Academic and administrative staff of the target three departments will be responsible for implementation of daily activities of the Project.

(3) JICA Experts

The JICA experts will give necessary technical guidance, advice and recommendations to MoEYS and ITC on any matters pertaining to the implementation of the Project.

(4) Joint Coordinating Committee

Joint Coordinating Committee (hereinafter referred to as "JCC") will be established in order to facilitate inter-organizational coordination. JCC will be held at least once a year and whenever deems it necessary. JCC will approve an annual work plan, review overall progress, conduct monitoring and evaluation of the Project, and exchange opinions or major issues that arise during the implementation of the Project. A list of proposed members of JCC is shown in the Annex 4.

8. Project Site(s) and Beneficiaries

The Project site will be ITC. Direct beneficiaries will be academic and administrative staff of the targeted three departments of ITC. Indirect beneficiaries will be students of the targeted three departments of ITC, and public and private sector for which graduates work.

9. Duration

The duration of the Project will be three (3) years.

10. Environmental and Social Considerations

MoEYS and ITC agreed to abide by 'JICA Guidelines for Environmental and Social Considerations' in order to ensure that appropriate considerations will be made for the environmental and social impacts of the Project.

III. UNDERTAKINGS OF MoEYS

1. MoEYS and ITC will take necessary measures to:

- (1) ensure that the technologies and knowledge acquired by the Cambodian nationals as a result of Japanese technical cooperation contributes to the economic and social development of Cambodia, and that the knowledge and experience acquired by the personnel of Cambodia from technical training as well as the equipment provided by JICA will be utilized effectively in the implementation of the Project; and
- (2) grant privileges, exemptions and benefits to the JICA experts and members of the JICA missions referred to in II-7 above and their families, which are no less favorable than those granted to experts and members of the missions and their

families of third countries or international organizations performing similar missions in Cambodia.

2. Other privileges, exemptions and benefits will be provided in accordance with the Agreement of Technical Cooperation signed on June 17, 2003 between the Government of Japan and the Royal Government of Cambodia.

IV. EVALUATION

JICA and MoEYS will jointly conduct the following evaluations and reviews.

1. Mid-term review at the middle of the cooperation term
2. Final evaluation during the last six (6) months of the cooperation term

V. PROMOTION OF PUBLIC SUPPORT

For the purpose of promoting support for the Project, MoEYS and ITC will take appropriate measures to make the Project widely known to the people of Cambodia.

VI. MUTUAL CONSULTATION

JICA and MoEYS/ITC will consult each other whenever any major issues arise in the course of Project implementation.

VII. PROJECT DESIGN MATRIX (PDM)

A Project Design Matrix (hereinafter referred to as "PDM") is usually used for Japanese technical cooperation projects to manage and implement the projects efficiently and effectively. It is also used as a reference for monitoring and evaluating the projects.

The drafted PDM attached in Annex 1 will be applied to the Project with the following understanding:

- PDM is a logically designed matrix which defines the initial understanding of the framework for the Project and indicates the logical steps towards the achievement of the Project Purpose.
- PDM is to be flexibly revised according to the progress and achievement of the Project upon agreement between Indonesian side and JICA.

VIII. PLAN OF OPERATION (PO)

Drafted Plan of Operations is attached in ANNEX 2.

IX. RECORD OF DISCUSSIONS (RD)

Drafted Record of Discussions is attached in ANNEX 5.

X. OTHERS

1. Project Title

It was proposed by the both sides that the original Project title “The Project for Human Resource Development for Industry” be changed to be “The Project for Educational Capacity Development of Institute of Technology of Cambodia”, in order to specify the target of the Project.

2. Revision of Syllabus and Instruction for Practices and Experiments

Both sides confirmed that the revision of syllabus and instruction for practices and experiments will be implemented by concerned academic staffs of ITC at ITC’s own expenses, with advice from Japanese experts. Revised syllabus, instruction for practices and experiments and other materials to be developed under the Project will be produced in English language.

3. Participation of JICA in the Council of Administration of ITC

It was proposed by the both sides that JICA participates in the Council of Administration (C.A.) of ITC as an observer first, and as a full member with an approval of C.A. in the future.

4. Training of Academic Staff by Joint Research Activities (Activity 2-2)

Both sides confirmed that the primary aim of joint research activities under Activity 2-2 is to enhance problem solving skills of academic staff by conducting applied research projects to address issues that the industry and society of Cambodia face, rather than to enhance purely scientific research capacity of academic staff by conducting academic basic research projects.

5. Faculty Development Activities (Activity 2-3)

Both sides confirmed that Faculty Development activities under Activity 2-3 include seminars to share good practices and experiences in teaching among academic staff.

- Annex 1 Project Design Matrix
- Annex 2 Tentative Plan of Operation
- Annex 3 Project Organization Chart
- Annex 4 A List of Proposed Members of Joint Coordinating Committee
- Annex 5 Draft Record of Discussions

Project Title: The Project for Educational Capacity Development of Institutes of Technology of Cambodia (ITC)

Duration: Three years

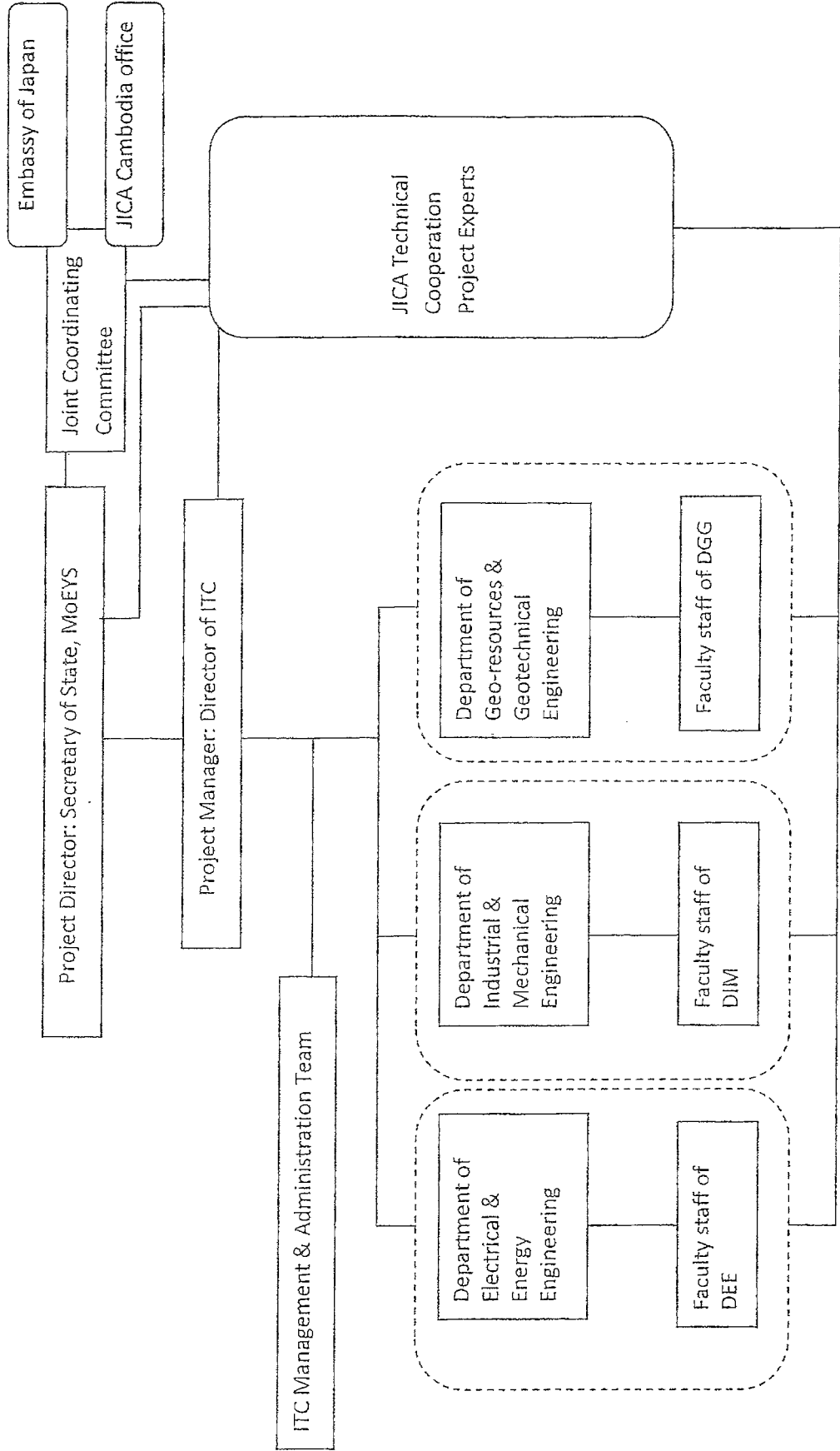
Target Group : Academic staff of three target Departments of ITC (Electrical and Energy Engineering, Industrial and Mechanical Engineering, and Geo-resources and Geotechnical Engineering)

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption
(Overall Goal) Graduates with stronger practical skills are developed by the target departments of ITC.	1. 70% of employers of ITC graduates consider graduates after the Project have stronger practical skills than those before the Project.	Questionnaire/Interview with employers in public and private sectors	Trained academic staff stay with ITC
(Project Purpose) The quality of education is improved with more emphasis on practice and experiments at the target departments of ITC as a leading university.	1. Evaluation committee to be established for the Project assesses the quality of education is improved with more emphasis on practice and experiments.	Result of evaluation by the evaluation committee for the Project	
(Outputs) 1. Syllabus for course works is improved with more practice and experiments.	1.1. Ratio of practice and experiments in curriculum increases. 1.2. Number of students per equipment decreases. 1.3. Number of revised syllabus. 1.4. Number of revised instruction for practices and experiments.	Record of each Department of ITC	
2. Teaching method of academic staff is enhanced to conduct practice-oriented education.	2.1. All heads of the departments consider capacity of academic staff is enhanced to conduct practice-oriented education. 2.2. Faculty Development activity is regularly conducted.	Record of each Department of ITC Questionnaire/Interview to heads of departments Record of faculty development activity	
3. Equipment for experiments is properly utilized for practice and experiment.	3.1. Regulation for utilization of equipment is developed. 3.2. Periodical review is conducted by the taskforce.	Record of each Department of ITC, Reports from taskforce on periodical review	
(Activities) 1-1. Set up a taskforce for syllabus revision. 1-2. Review and revise syllabus and instruction for practices and experiments. 1-3. Conduct a periodical review on the implementation of the revised syllabus and instruction for practices and experiments. 2-1. Train academic staff by model teaching by Japanese and/or ASEAN country experts. 2-2. Train academic staff by joint research activities with Japanese and/or ASEAN country experts. 2-3. Conduct Faculty Development activities to share good practices in teaching among academic staff. 3-1. Set up a taskforce for utilization of equipment. 3-2. Develop a regulation for utilization of equipment. 3-3. Conduct a periodical review on utilization of equipment by the taskforce.	Inputs 1. JICA a) Long-term Experts: Chief Advisor and Project Coordinator b) Short-term Experts: Three to four experts per department per year from Japan and/or ASEAN country c) Provision of equipment d) Short-term training of academic staff in Japan: three to four staff per department per year 2. Cambodia a) Assignment of necessary administrative and academic staff for implementation of the Project b) Provision of office space for experts c) Provision of maintenance costs of facilities and equipment d) Provision of running expenses for the implementation of the Project	Preconditions Needs for the engineering fields do not change drastically.	

Plan of Operation for the Project (tentative)

Project Period	Preparation period	1st Year				2nd Year				3rd Year				Responsible Person	
		I	II	III	IV	I	II	III	IV	I	II	III	IV		
Output 1. Syllabus for course works is improved with more practice and experiments.															
1	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>														Director
2	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>														Head of Departments
3															Head of Departments
Output 2. The teaching method of academic staff is enhanced to conduct practice-oriented education.															
1	<input type="checkbox"/>														Head of Departments
2															Head of Departments
3															Director
Output 3. The equipment for experiments is properly utilized for practice and experiments.															
1	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>														Director
2															Head of Departments
3															Head of Departments

Organizational Structure



List of Proposed Members of the Joint Coordinating Committee

1. Chairperson: Secretary of State, Ministry of Education, Youth and Sports
2. Vice-chairperson: Director of the Institute of Technology of Cambodia
3. Members:
 - Deputy Director of ITC for International Cooperation and Research
 - Deputy Director of ITC for Planning and Development
 - Heads of the three target Departments of ITC
 - Representative of Ministry of Industry, Mines and Energy
 - Chief Representative of JICA Cambodia Office*
 - Chief adviser of the Project
 - JICA Experts
4. Observers: Officials of the Japanese Embassy in Cambodia
Other personnel invited by JCC

RECORD OF DISCUSSIONS
ON
THE EDUCATIONAL CAPACITY DEVELOPMENT OF
INSTITUTE OF TECHNOLOGY OF CAMBODIA
IN
CAMBODIA
AGREED UPON BETWEEN
MINISTRY OF EDUCATION, YOUTH AND SPORTS
AND
JAPAN INTERNATIONAL COOPERATION AGENCY

Phnom Penh, 2011

Mr. Yasujiro SUZUKI

Chief Representative

Cambodia Office

Japan International Cooperation Agency

Japan

H.E. Dr. Sackona PHOEURNG

Secretary of State

Ministry of Education, Youth and Sports

Kingdom of Cambodia

Dr. Romny OM

Director

Institute of Technology of Cambodia

Kingdom of Cambodia

Based on the minutes of meetings on the Detailed Planning Survey on the Educational Capacity Development of Institute of Technology of Cambodia (hereinafter referred to as “the Project”) signed on August 5, 2011, between Ministry of Education, Youth and Sports (hereinafter referred to as “MoEYS”) and the Japan International Cooperation Agency (hereinafter referred to as “JICA”), JICA held a series of discussions with MoEYS and relevant organizations to develop a detailed plan of the Project.

Both parties agreed the details of the Project and the main points discussed as described in the Appendix 1 and the Appendix 2 respectively.

Both parties also agreed that MoEYS, the counterpart to JICA, will be responsible for the implementation of the Project in cooperation with JICA, coordinate with other relevant organizations and ensure that the self-reliant operation of the Project is sustained during and after the implementation period in order to contribute toward social and economic development of Cambodia.

The Project will be implemented within the framework of the Agreement on Technical Cooperation signed on June 17, 2003 (hereinafter referred to as “the Agreement”) and the Note Verbales exchanged on [date] between the Government of Japan (hereinafter referred to as “GOJ”) and the Royal Government of Cambodia.

Appendix 1: Project Description

Appendix 2: Main Points Discussed

Appendix 3: Minutes of Meetings on the Detailed Planning Survey

PROJECT DESCRIPTION

Both parties confirmed that there is no change in the Project Description agreed on in the minutes of meetings on the concerning Detailed Planning Survey on the Project signed on August 5, 2011] (Appendix 3).

The Record of Discussions may be amended by the minutes of meetings between JICA and MoEYS. The minutes of meetings will be signed by authorized persons of each side who may be different from the signers of the record of discussions.

MAIN POINTS DISCUSSED

(To be added, if any)

**EE Courses-Curriculum of Electrical and Energy Engineering
Department**

Third Year, Semester 1

<i>Course</i>	<i>Lecturer</i>	<i>Code</i>	<i>Credits</i>	<i>Hours</i>
French	French section		2 (0-2)	64
English	English section		1 (0-1)	32
Mathematical Engineering	Foundation Year		2 (1-1)	48
Electrical Circuits and Analog Filters I	Chy Cheapok		2.5 (2-0.5)	48
Analog Electronic Design	Thourn Kosorl		4 (3-1)	80
Digital Electronic Design	Ping Sethika		2 (1-1)	48
Electric Machines and Equipments	Sean Piseth		3 (2-1)	64
Total			16.5	384

Third Year, Semester 2

<i>Course</i>	<i>Lecturer</i>	<i>Code</i>	<i>Credits</i>	<i>Hours</i>
French	French section		1 (0-1)	32
English	English section		2 (0-2)	64
Computer	Foundation Year		1 (0-1)	32
Electrical Circuits and Analog Filters II	Chy Cheapok		1.5 (1-0.5)	32
Signals and Systems	Keo Lycek		2 (1-1)	48
Microprocessor and Interface	Ping Sethikar		2 (1-1)	48
Linear Control System I	Chy Cheapok		2 (1-1)	48
Power Electronic Design	Phol Norith		2 (1-1)	48
Electrical Installation and Security	Bun Seang		2 (2-0)	32
Total			15.5	384

Fourth Year, Semester 1

Course	Lecturer	Code	Credits	Hours
French	French section		1 (0-1)	32
English	English section		1 (0-1)	32
Fluid Mechanic and Heat Transfer	Khoun Rithymean		2 (2-0)	32
Electrical Materials	Seng Silong		2 (2-0)	32
Electric System Analysis	Khun Chanthea		3 (2-1)	64
Distribution Network	Leng Sovannarith		3 (2-1)	64
Renewable Energies and Technologies	Sean Piseth		2 (1-1)	48
Power Plant	Khun Chanthea		2 (2-0)	32
Numerical Methods and Optimization	Sean Piseth		2 (1-1)	48
Total			18	384

Fourth Year, Semester 2

Course	Lecturer	Code	Credits	Hours
French	French section		1 (0-1)	32
English	English section		1 (0-1)	32
Power System Modeling and Simulation	Seng Silong		2 (1-1)	48
Power System Transient and Protection	Leng Sovannarith		3 (2-1)	64
Electric Power System Optimization	Khun Chanthea		2 (2-0)	32
Energy Storages Devices	Khun Chanthea		2 (2-0)	32
Motors Drive	Phol Norith		2 (1-1)	48
Industrial Power Supplied	Sean Piseth		2 (2-0)	32
Energy Economic and Planning	Khun Chanthea		2 (2-1)	64
Total			17	384

Fifth Year, Semester 1

Course	Lecturer	Code	Credits	Hours
French	French section		1 (0-1)	32
English	English section		1 (0-1)	32
High Voltage	Leng Sovannarith		2 (2-0)	32
EMC	Khun Chanthea		2 (1-1)	48
Advanced Motor Drive	Khov Makara		2 (2-0)	32
Energy and Environment	Leng Sovannarith		2 (2-0)	32
Energy Efficiency and Economic	Khun Chanthea		2 (1-1)	48
Energy for Sustainable Development	Seng Silong		2 (2-0)	32
Electric Market Deregulation	Leng Sovannarith		2 (2-0)	32
Case Study	All lecturers		2 (0-2)	64
Total			18	384

Fifth Year, Semester 2

	Credits	Hours
Final Academic Project (Research Activity and Thesis)	9 (0-9)	288
Total	9	288

Note: Course =16 hours/credit, TD and TP= 32 hours/credit

**EAT Courses-Curriculum of Electrical and Energy Engineering
Department**

Third Year, Semester 1

<i>Course</i>	<i>Lecturer</i>	<i>Code</i>	<i>Credits</i>	<i>Hours</i>
French	French section		2 (0-2)	64
English	English section		1 (0-1)	32
Mathematical Engineering	Foundation Year		2 (1-1)	48
Electrical Circuits and Analog Filters I	Chy Cheapok		2.5 (2-0.5)	48
Analog Electronic Design	Thourn Kosorl		4 (3-1)	80
Digital Electronic Design	Ping Sethika		2 (1-1)	48
Electric Machines and Equipments	Sean Piseth		3 (2-1)	64
Total			16.5	384

Third Year, Semester 2

<i>Course</i>	<i>Lecturer</i>	<i>Code</i>	<i>Credits</i>	<i>Hours</i>
French	French section		1 (0-1)	32
English	English section		2 (0-2)	64
Computer	Foundation Year		1 (0-1)	32
Electrical Circuits and Analog Filters II	Chy Cheapok		1.5 (1-0.5)	32
Signals and Systems	Keo Lychek		2 (1-1)	48
Microprocessor and Interface	Ping Sethikar		2 (1-1)	48
Linear Control System I	Chy Cheapok		2 (1-1)	48
Power Electronic Design	Phol Norith		2 (1-1)	48
Electrical Installation and Security	Bun Seang		2 (2-0)	32
Total			15.5	384

Fourth Year, Semester 1

Course	Lecturer	Code	Credits	Hours
French	French section		1 (0-1)	32
English	English section		1 (0-1)	32
Sensor and Actuator	Seng Silong		2 (1-1)	48
Numerical Methods and Optimization	Thourn Kosal		2 (1-1)	48
Random Process	Keo Lychek		2 (2-0)	32
Linear Control System II	Chrin Phok		2 (2-0)	32
Electronic Circuit Design with VHDL	Ky Leng		2 (1-1)	48
Digital Signal Processing and digital filters	Ky Leng		2 (1-1)	48
Principle of Communications	Po Kimtho		3 (2-1)	64
Total			17	384

Fourth Year, Semester 2

Course	Lecturer	Code	Credits	Hours
French	French section		1 (0-1)	32
English	English section		1 (0-1)	32
Radio Wave Propagation	Ky Leng		2 (2-0)	32
Information Theory and Coding	Ky Leng		2 (1-1)	48
Digital Communications	Ky Leng		2 (1-1)	48
Wireless Communications	Po Kimtho		2 (1-1)	48
Transmission and Switching	Po Kimtho		2 (1-1)	48
Robotics	Keo Lychek		2 (1-1)	48
Industrial Computing	Khov Makara		2 (1-1)	48
Total			16	384

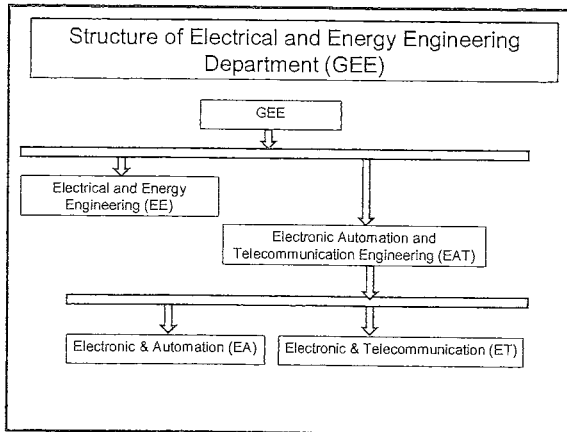
Fifth Year, Semester 1

Course	Lecturer	Code	Credits	Hours
French	French section		1 (0-1)	32
English	English section		1 (0-1)	32
Numerical Control Design	Keo Lychek		2 (2-0)	32
System Identifications	Khov Makara		2 (2-0)	32
Microwave and Antenna	Ky Leng		2 (2-0)	32
Telecommunication Systems	Po Kimtho		2 (1-1)	48
Optical Communications	Po Kimtho		2 (1-1)	48
Computer Networks	GIC Department		2 (2-0)	32
Project Management	Khov Makara		2 (2-0)	32
Case Study	All Lecturers		2 (0-2)	64
Total			18	384

Fifth Year, Semester 2

	Credits	Hours
Final Academic Project (Research Activity and Thesis)	9 (0-9)	288
Total	9	288

Note: Course =16 hours/credit, TD and TP= 32 hours/credit

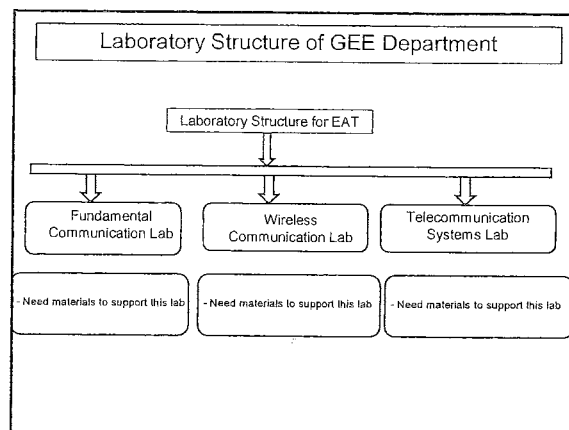
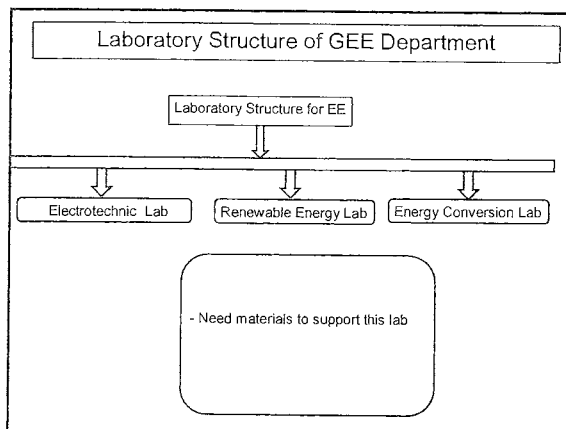
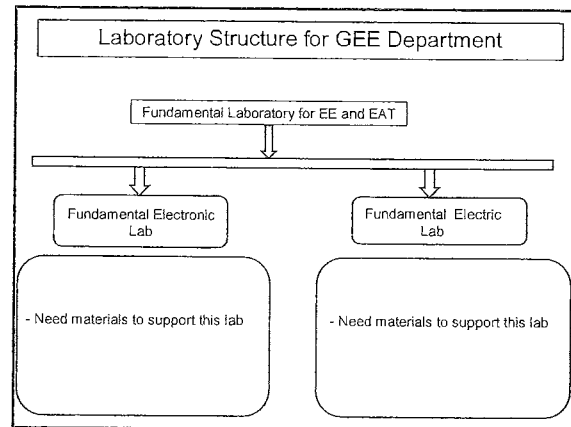


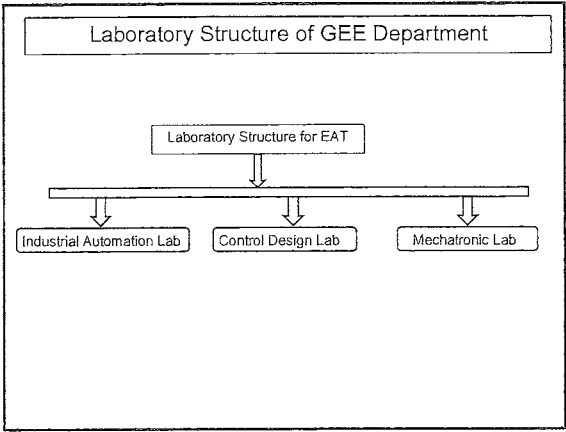
EE Courses

Basic Course (32 cr = 768h) Year 3	-French -English -Mathematical Engineering -Electrical Circuits and Analog Filters I -Analog Electronic Design -Digital Electronic Design -Electric Machines and Equipments -Signals and Systems -Microprocessor and Interface -Power Electronic Design -Linear Control System I -Electrical Installation and Security			
Core Courses (53 cr = 1152h) Year 4 and 5	Energy System -Renewable Energy and Technologies -Electric Power Plant -Energy Storage -Energy and Environment	Electric Drive -Motor drive -Advanced motor drive -EMC	Electric Power System -Electric System Analysis -Electric Power Distribution and Simulation -Electric System Modeling and Simulation -Industrial Power Supplies -High Voltage Engineering	Energy Economic and Management -Energy Economic and Planning -Electric Market Deregulation -Energy for Sustainable Development -Energy Efficiency and Economics -Numerical Methods and Optimization -Electric System Optimization
Final Project (9 credits)	Energy System/Electric Drive/Electric Power System/Energy Economic and Management			

EAT Courses

Basic Course (32 cr = 768h) Year 3	-French -English -Mathematical Engineering -Electrical Circuits and Analog Filters I -Analog Electronic Design -Digital Electronic Design -Electric Machines and Equipments -Signals and Systems -Microprocessor and Interface -Power Electronic Design -Linear Control System I -Electrical Installation and Security		
Core Courses (51 cr = 1152h) Year 4 and 5	Electronic -Sensor and Actuator -Electronic Circuit Design with VHDL	Control & Automation -Numerical Methods and Optimization -Linear Control System II -Robots -Industrial Computing -Numerical Control Design -System Identification	Telecommunication -Digital Signal Processing and Digital Filters -Principles of Communication -Radio Wave Propagation -Information Theory and Coding -Digital Communications -Microwave and Antenna -Wireless Communications -Transmission and Switching -Telecommunication Systems -Optical Communications -Computer Networks
Final Project (9 credits)	Electronic/Control/Automation/Telecommunication		





3. 電気エネルギー学科教員リスト

List of teaching staffs
Department of Electrical and Energy Engineering

N	Name	Spécialité	Diplôm	Function	Observation
1	Chy Cheapok	Control System	DAT (Master)	Head of department	
2	Khov Makara	Automation and Control	Doctor (INPT, France)	deputy head of department	
3	Om Romny	Power	Doctor (Japan)	Lecturer	
4	Phoi Norith	Power Electronic	Master (INPT, France)	Lecturer	
5	PO Kimtho	Telecommunication	Doctor (TIT, Japan)	Lecturer	AUN/Seed-Net Alumni
6	Ky Leng	Telecommunication	Doctor (TIT, Japan)	Lecturer	AUN/Seed-Net Alumni
7	Keo Lychek	Control Engineering	Doctor (TIT, Japan)	Lecturer	AUN/Seed-Net Alumni
8	Khun Chanthea	Power System+EMC	Master (KMITL, Thailand)	Lecturer	AUN/Seed-Net Alumni
9	Chrin Phok	Control System	Master (KMITL, Thailand)	Lecturer	AUN/Seed-Net Alumni
10	Leng Sovannarith	Power System	Master (Chulalongkorn, Thailand)	Lecturer	AUN/Seed-Net Alumni
11	Thourn Kosarl	Electronic	Master (Thailand)	Lecturer	AUN/Seed-Net Alumni
12	Eng Vuthchhay	Control System	Master (KMITL, Thailand)	Lecturer	AUN/Seed-Net Alumni
13	Sean Piseth	Electric power system Management	Master (AIT, Thailand)	Lecturer	
14	Prak Thea	Electric power système Management	Master (AIT Bangkok Thailand)	Lecturer	
15	Bun Seang	Electrical	Engineer Degree	Lecturer	
16	Ping Sethikar	Electrical	Engineer Degree	Lecturer	
17	Chhit Chhunny	Electrical	Engineer Degree	Lecturer	
18	Sreng Sokchenda	Telecommunication	Doctor Student (INPT, France)	Lecturer	
19	Bun Long	Energy	Doctor Student (INPG, France)	Lecturer	
20	Chhun Labo	Control	Doctor (INPT, France)	Student	Post-doc
21	Beun Somuny Outd	Signal Treatment	Doctor Student (France)	Student	

4. 電気エネルギー学科現有機材リスト

No	Equipements	Unit	Qty
1	Differential oscilloscope	set	7
2	Analogical oscilloscope	set	7
3	DL1720EL Digital oscilloscope	set	3
4	TX1002 Digital Thermometer with 90020 type K probe	set	2
5	Digital multimeter	set	15
6	Analogical maquette	set	15
7	Digital maquette	set	15
8	Capacimeter	set	2
9	Cordon Probe	set	20
10	Ammeter	set	20
11	Voltmeter	set	20
12	Wattmetre	set	20
13	Double chanel power supply	set	10
14	Generator frequency	set	10
15	Conductors coulors 1.20m	set	50
16	Conductors coulors 1.00m	set	50
17	Coductors coulors 0.80m	set	50
18	Conductors coulors 0.60m	set	50
19	Conductors coulors 0.60m	set	50
20	Conductors coulors 0.40m	set	50
21	Conductors coulors 0.30m	set	50
22	Conductors coulors 0.20m	set	50
23	Transistor 2N 1711	set	150
24	Transistor 2N 2222A	set	100
25	Transistor 2N 2905A	set	100
26	Transistor 2N 2219A	set	100
27	Transistor TEC BF 245	set	100
28	Transistor SSM 2210	set	100
29	Differential oscilloscope	set	2
30	Analogical oscilloscope	set	2
31	Digital multimeter	set	2
32	Cordon Probe	set	10
33	Ammeter	set	4
34	Voltmeter	set	4
35	Wattmeter	set	2
36	Double chanel power supply	set	2
37	Generator frequency	set	2
38	Conductors coulors 1.00m (2mm ²)-	set	30
39	Conductors coulors 0.80m	set	30
40	Conductors coulors 0.40m	set	30
41	Conductors logic 0.30m	set	30
42	51001 Digital illuminance meter	set	2

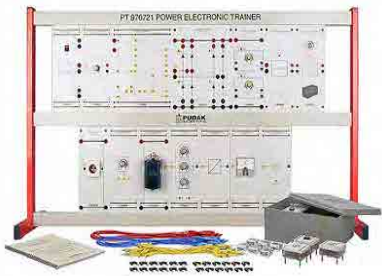
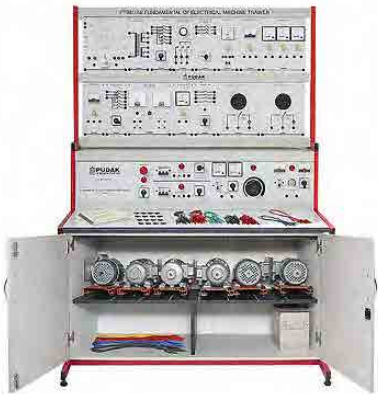
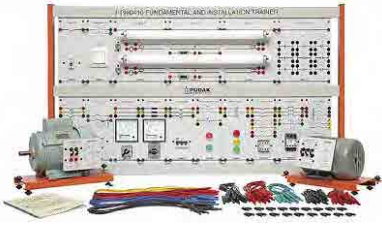
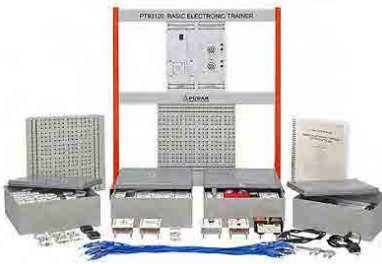
No	Equipements	Unit	Qty
43	323511 Earth Tester	set	2
44	2406E Insulation Testers 240634	set	2
45	Hewlett Packard 4284A Precision LCR Meter	set	1
46	DL9140 Digital Oscilloscope	set	2
47	PAD35-10L DC Power supply (Kikusui)	set	2
48	Current probe	set	2
49	WT1600 Digital Power Meter and accessories	set	2
50	PV module	set	2
51	Load regulator	set	1
52	Battery	set	2
53	Inverter	set	1
54	Ammeter	set	2
55	Volmeter	set	2
56	Wattmeter	set	2
57	Variable resistance	set	2
59	Radiation solar sensor	set	2
60	Sensor temperature	set	2
61	Sensor humidity	set	2
62	Wind flow meter	set	1
63	Wind direction sensor	set	1
64	Pressure sensor	set	2
65	Lux meter	set	2
66	Luminence meter	set	2
67	Single phase transformer	set	1
68	Three phase transformer	set	1
69	Variable direct current power supply	set	1
70	Variable alternative current power supply	set	1
71	Ohmmeter	set	1
72	Volmeter	set	2
73	Ammeter	set	2
74	Wattmeter	set	2
75	Resistance	set	1
76	Inductance	set	1
77	Capacitance	set	1
79	Induction motor	set	1
80	Dynamotachymeter	set	1
81	Electrical break	set	1
82	Variable alternative current power supply	set	1
83	Rheostar	set	1
84	Ohmmeter	set	1
85	Volmeter	set	2

No	Equipements	Unit	Qty
86	Ammeter	set	2
87	Wattmeter	set	2
90	Induction motor	set	1
91	Dynamotachymeter	set	1
92	Electrical break	set	1
93	Variable alternative current power supply	set	1
94	Rheostar	set	1
95	Ohmeter	set	1
96	Volmeter	set	2
97	Ammeter	set	2
98	Wattmeter	set	2
99	Push contac	set	2
100	Contactore	set	1
101	Tempo	set	1
102	Disjonctor	set	1
103	Lamp indicator	set	2
105	Single phase induction motor	set	1
106	Dynamotachymeter	set	1
107	Electrical break	set	1
108	Capascitor	set	2
109	Variable alternative current power supply	set	1
110	Rheostar	set	1
111	Ohmeter	set	1
112	Volmeter	set	2
113	Ammeter	set	2
114	Wattmeter	set	2
116	Three phase induction motor	set	1
117	Dynamotachymeter	set	1
118	Electrical break	set	1
119	Variable Direc current power supply	set	1
120	Variable alternative current power supply	set	1
121	Ohmeter	set	1
122	Volmeter	set	2
123	Ammeter	set	2
124	Wattmeter	set	2
126	Synchrone generator three phase	set	1
127	Direct current motor	set	1
128	Dynamotachymeter	set	1
129	Synchronism box	set	1
130	Variable Direc current power supply	set	1


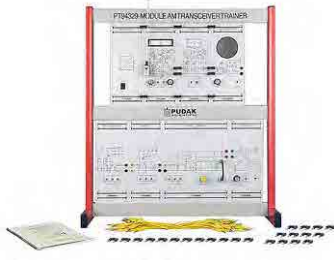
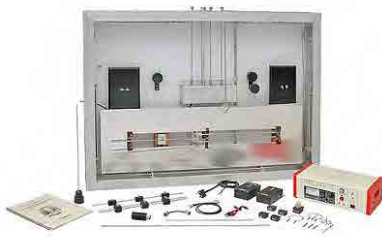
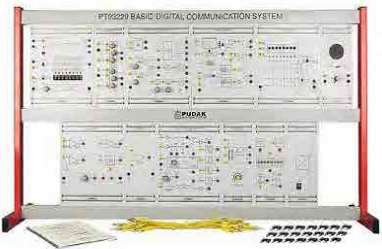
No	Equipements	Unit	Qty
131	Variable alternative current power supply	set	1
132	Rheostar	set	1
133	Ohmeter	set	1
134	Volmeter	set	2
135	Ammeter	set	2
136	Wattmeter	set	2
137	Resistance	set	1
138	Inductor	set	1
139	Capacitor	set	1

5. 電気エネルギー学科要請機材リスト





List of requested equipments for GEE

No	Product/reference	Figure	Estimated price (USD)/unit	Qty	Estimat edprice(USD)
I. Fundamental Electric and Electronic Laboratory					
1	Power electronic trainer. Ref: PT970721 www.pudak-scientific.com/detail_products.php?id=70		2500.00	3 to 5	
2	Fundamental of Electrical Machine Trainer Ref: PT 981156 www.pudak-scientific.com/detail_products.php?id=71		22000.00	3 to 5	
3	Fundamental and Installation Trainer Ref: PT 980410 http://www.pudak-scientific.com/detail_products.php?id=65		4800.00	3 to 5	
4	Basic Electronic Trainer Ref: PT 980410 http://www.pudak-scientific.com/detail_products.php?id=56		2200.00	3 to 5	

5	<p>Measurement Equipment Analog Ammeter Metrix 35 100μA to 10A \rightarrow IDC 100mA to 10A \rightarrow IAC</p>		450.00	10 to15	
6	<p>Measurement Equipment Analog voltmeter meter Mx 25 Tension 1 to 1000V \rightarrow DC</p>		450.00	10 to15	
7	<p>Measurement Equipment Analog watts meter</p> <ul style="list-style-type: none"> * Single-phase * 3-wire, 3-phase * I= 0.25 A / 1 A / 5 A / 25 A * V= 50 / 100 / 250 / 500 V * F= 10 Hz ... 400 Hz * AC/DC <p>http://www.directindustry.com/prod/gmc-instruments/analog-power-meters-5231-575684.html</p>		550.00	5 to 10	
8	<p>WT500 Power Analyzer (yokogawa) Current rage: 0.5 to 40 A Voltage rage: 15 to 1000V Frequency rage: 0.5Hz to 100 KHz</p>		13000.00	1 to 2	
Subtotal I					

II. Fundamental Communication Laboratory					
9	Module FM Transceiver Trainer Ref: PT 94330 http://www.pudak-scientific.com/detail_products.php?id=55		2000.00	3 to 5	
10	Module AM Transceiver Trainer Ref: PT 94329 http://www.pudak-scientific.com/detail_products.php?id=54		2100.00	3 to 5	
11	Microwave Trainer Ref: PT 94124 http://www.pudak-scientific.com/detail_products.php?id=52		3300.00	3 to 5	
12	Basic Digital Communication Trainer Ref: PT 93229 http://www.pudak-scientific.com/detail_products.php?id=51		3700.00	3 to 5	
Subtotal II					
III. PV Quality Testing for Renewable Energy Laboratory					
13	VS-6810 (0-200V/0.1-10A) Curve Tracer measures the I-V characteristics of Photovoltaic (PV) cells		4200.00	1	
14	Volt-Ampere meter 200V, 10A		120.00	5	
15	Power meter (Mitsubishi) 5A		600.00	5	
16	PV system 40Wp/12V		180.00	5	

17	PV system 80Wp/12V		350.00	5	
18	Variable resistor 200W		210.00	5	
Subtotal III					
IV. Digital Communication Laboratory					
19	EDICOM 1: Signals Sampling and Reconstruction http://www.edibon.com/products/?area=communications&subarea=digital		1200.00	3 to 5	
20	EDICOM 2: Time Division Multiplex (TDM), PAM Transmitter and Receiver http://www.edibon.com/products/?area=communications&subarea=digital		1400.00	3 to 5	
21	EDICOM 3: MIC-TDM Transmission/Reception http://www.edibon.com/products/?area=communications&subarea=digital		1700.00	3 to 5	
22	EDICOM 4: Delta Modulation and Demodulation http://www.edibon.com/products/?area=communications&subarea=digital		1600.00	3 to 5	
23	EDICOM 5: Line codes, Signal Modulation and Demodulation http://www.edibon.com/products/?area=communications&subarea=digital		2100.00	3 to 5	
24	EDICOM 6: Optical Fiber Transmission and Reception http://www.edibon.com/products/?area=communications&subarea=digital		1700.00	3 to 5	

25	- FA-CO: Power Supply http://www.edibon.com/products/?area=communications&subarea=digital		800.00	10	
26	ADAS/VIS. Data Acquisition System/ Virtual Instrumentation System http://www.edibon.com/products/?area=communications&subarea=digital		8000.00	1	
Subtotal IV					
V. Telephone and Switching System Laboratory					
27	CODITEL. Telephony Systems Trainer http://www.edibon.com/products/?area=communications&subarea=telephony		15000.00	1	
Subtotal V					
VI. RF Measurement Laboratory (Applied Research Lab.)					
28	High Frequency Spectrum Analyzer Anritsu MS2667C Frequency: 9KHz to 30 GHz		26000.00	3 to 3	
29	Digital Storage Oscilloscope Tektronix TDS 1012 Frequency: 100 MHz Sampling frequency: 1 GS/s		1800.00	5 to 7	

30	Spectrum Master MS2722C Frequency: 9 kHz to 9 GHz		18000.00	1	
31	Noise Meter Kenwood VT 182 10 uV to 300V		2300.00	2 to 4	
32	Directional Wattmeter Frequency up to 2.7 GHz Power 100mW to 10kW		500.00	2 to 5	
33	RF Power Meter (-70dBm to +44dBm, 100kHz to 50GHz, up to 1000 reading/sec) E4416A EPM-P Serie http://www.home.agilent.com/agilent/product.jsp?pn=E4416A&cc=KH&lc=eng		5240	1 to 2	
34	High Frequency Signal Generator/Modulator (up to 6 GHz) Agilent E4428C		28000.00	1	
35	Vector network analyzer HP8753E http://www.testequipmentconnection.com/32977/Agilent_8753E-006-010.php		28000.00	1	
36	BBAA and BBVU antenna Frequency: 100MHz to 1GHz			1 to 2	

37	USLP 9143 antenna Frequency: 0.3 to 5 GHz			1 to 2	
38	SBA 9112 antenna Frequency: 3 to 18GHz			1 to 2	
39	EMC antenna			1 to 2	
40	Wireless antenna			1 to 2	
41	Coaxial Cable AK 9513 Impedence: 50ohm Frequency up to: 3 GHz			1 to 2	
42	Coaxial Cable AK 9515E Impedence=50Ohm Frequency up to 10GHz			1 to 2	
43	Coaxial Cable AK 9515H Impedence=50 Ohm Frequency up to 18GHz				
44	XCVR 2450 2.4 to 2.5 GHz and 4.9 to 5.85 GHz Dual-band Transceiver. http://www.ettus.com/order		500	4	
45	Transceiver RFX900 http://www.ettus.com/order		350	4	
46	Antenna LP0965 http://www.ettus.com/order		60	4	
47	Antenna VERT2450 http://www.ettus.com/order		45	4	
48	Antenna VERT900 http://www.ettus.com/order		45	4	
49	SMA-BNC http://www.ettus.com/order		50	4	
50	LPBK-KIT http://www.ettus.com/order		120	2	
51	SD-Card http://www.ettus.com/order		15	4	
52	SD-Reader http://www.ettus.com/order		20	4	

Subtotal VI	
Total I+II+III+IV+V+VI	

6. 産業機械工学科カリキュラム

CURRICULUM 2010-2011											
DUT Industrial & Mechanical Engineering Department											
COMMON STUDIES	Number of hours (Lectures, Exercises, Practises)							Number of credits			
	1A		2A		3A		TOTAL	Lecture	Exercise	Practise	TOTAL
	I	II	III	IV	V	VI					
French			32	32	32	32	128		4		4
English			32	32	32		96		3		3
Mathematics							0				0
Physics							0				0
Chemistry							0				0
Informatique							0				0
Technical drawing							0				0
Management and accounting						32	32	2			2
TOTAL common studies	0	0	64	64	64	64	256				9
SPECIALTIES											
Electrotechnics				32			32	2			2
Mechanics			48	32			80	3	1		4
Strength of materials			16	48			64	2	1		3
Material Sciences			48	32			80	3		1	4
Thermics, Thermodynamics			32	48			80	3	1		4
Hydraulics			16	32			48	1	1		2
Mechanical design I			48	48			96	2	1	1	4
AutoCAD			32				32			1	1
Mechanical production I			48	48			96	2		2	4
Metrology and Control			32				32			1	1
Training after year two											2
Electronics					32		32	2			2
Power' electronics					32		32	2			2
Mechanical design II					48		48	1	1		2
Mechanical production II					48		48	1		1	2
Machine tools numerical control						32	32			1	1
Maintenance of engine					48	32	80	3		1	4
Systems of mechanical welding					64		64	2		1	3
Refrigeration and conditioning					48	32	80	3		1	4
Industrial maintenance						16	16	1			1
Enterprises organization and management						16	16	1			1
Final year training						192	192				5
Total for department			320	320	320	320					67
TOTAL GENERAL	0	0	384	384	384	384	1536				

Remarks:

1 course credit = 16hr

1 exercise or practise credit = 32hr

CURRICULUM 2010-2011															
ENGINEERS Industrial & Mechanical Engineering Department															
COMMON STUDIES	Number of hours (lectures, Exercises, Practices)										Number of credits				
	1A		2A		3A		4A		5A		TOTAL	Lecture	Exercise	Practice	TOTAL
I	II	III	IV	V	VI	VII	VIII	IX	X						
French					64	32	32	32	32		192		6		6
English					32	64	32	32	32		192		6		6
Mathematics					48						48	1	1		2
Physics/Chemistry											0				0
Technical drawing											0				0
Computer programming (Matlab)						32					32		1		1
Philosophy											0				0
History											0				0
Environnement											0				0
Marketing											0				0
Management and finance											0				0
TOTAL common studies	0	0	0	0	144	128	64	64	64		464				15
SPECIALTIES															
Mechanics					32	32					64	2	1		3
Strength of materials					32	32					64	2	1		3
Materials Sciences					32	48					80	3		1	4
Thermics						48					48	1	1		2
Fluids mechanics					48						48	1	1		2
Industrial Hydraulics						32					32	2			2
Mechanical design, AutoCAD					48	32					80	1	1	1	3
Mechanical production, Metrology					48	32					80	1		2	3
Training after year three															2
Hyperstatics, Finite elements							48				48	1	1		2
Electrotechnics							32				32	2			2
Electronics								32			32	2			2
Power electronics								32			32	2			2
Thermodynamics							48				48	1	1		2
Organs of machines							48				48	1	1		2
Mechanical constructions I								48			48	1	1		2
Automatism							48				48	1		1	2
Servo-control systems								48			48	1	1		2
Computer Aids Manufacturing (CAM)							48				48	1		1	2
Welding technology							48				48	1		1	2
Welding constructions								32			32	2			2
Foundry								32			32	2			2
Internal combustion engine I								48			48	1		1	2
Refrigeration and air conditioning I								48			48	1		1	2
Regulation									32		32	2			2
Mechanical constructions II									32		32			1	1
Forming operations									32		32	2			2
Plastic materials operations									32		32	2			2
Internal combustion engine II									48		48	1		1	2

7. 産業機械工学科教員リスト



**INSTITUT DE TECHNOLOGIE DU
CAMBODGE**
*Département Génie Industriel et
Mécanique*



List of teaching staffs
Department of Industrial & Mechanical Engineering

N°	Names	Fonction	Observation
1	Pan Sovanna	Head of department	Diplomas : DEA, Master, Russia and Belgium Engineer, ITC Engineer, ITC DEA, Belgium Master, Indonesia Master, South Korea Engineer, ITC PhD, Kyoto Univ., Japan Master, Malaysia Master, Indonesia PhD, Indonesia
2	Un Amata	Deputy head of department	
3	Ngor Bunroth	Lecturer	
4	Khoun Rithymean	Lecturer	
5	Srang Sarot	Lecturer	
6	Chhith Saosometh	Lecturer	
7	Kim Vireak	Lecturer	
8	Rey Sopheak	Lecturer	
9	Kruey Sothea	Lecturer	
10	Meng Chamnan	Lecturer	
11	Chan Sarin	Lecturer	
1	Sar Sambo	Lecturer	Pursue studies in abroad : - UM, Malaysia - France - Tokyo Institute of Technology, Japan - ITB, Indonesia - ITB, Indonesia - ITB, Indonesia - France
2	Seang Chansopheak	Lecturer	
3	Nguon Kollika	Lecturer	
4	Sok Ratnak	Student	
5	To Dara	Student	
6	Nhem Sophal	Student	
7	Siv Easeng	Student	

Phnom Penh, September 21st, 2010

Pan Sovanna
Head of Department

8. 産業機械学科現有機材リスト



Department of Industrial & Mechanical Engineering
Inventory of equipments in the department of Industrial & Mechanical Engineering
2009-2010

Lab. C102

N°	Types	Designation	Utilization	Identity of equipment	Quantity	State
	MTE					
1	-	General Cycle Trainer	2001	RCT/EV (Italy)	2	Good
2	-	Refrigeration Plant Fault Simulator	-	ECC/EV (Italy)	1	-
3	-	Industrial Refrigeration Trainer	-	TRI/EV (Italy)	1	-
4	-	Domestic Air Conditioning Trainer	-	TAC/EV (Italy)	1	-
5	-	Air Conditioning Trainer	-	GCT/EV (Italy)	1	-
6	-	Automotive Air Conditioning Trainer	-	ACT/EV (Italy)	1	-

Lab. C104

N°	Types	Designation	Utilization	Identity of equipment	Quantity	State
1	MTE	Welding machine MIG/MAG, LKB 265/320	1999	ESAB	1	Good
2	-	Welding machine TIG 160	2003	WIM	1	-

Lab. C105

N°	Types	Designation	Utilization	Identity of equipment	Quantity	State
1	MTE	Engine Test bed	2002	Italy	1	Good

Lab. C107

N°	Types	Designation	Utilization	Identity of equipment	Quantity	State
1	MTE	Milling machine, Gambin SA 10 N°12481	1998	GAMBIN	1	Old
2	-	Milling machine, Gambin SA 10 N°12522	-	-	1	-
3	-	Milling machine, Gambin SA 10 N°12501	-	-	1	-
4	-	Lathe, 304T	1998	ERNAULT SOMUA	1	-
5	-	Lathe, 310T	-	-	1	-
6	-	Drill	-	SYDERIC SC23 02B 77	1	-
9	-	Lathe, GMBH	2003	KNUTH	2	Good

Lab. C108

N°	Types	Designation	Utilization	Identity of equipment	Quantity	State
1	MTE	Milling machine, CNC FNG20	2003	CZECH République	1	Good

Phnom Penh, September 21st, 2010

Pan Sovanna
Head of Department

9. 産業機械工学科要請機材リスト

List of Requested Equipments for GIM

No.	Name	Figure	Estimated price (USD)/unit	Qty	Estimated price (USD)
1	A/D Converter Graphtec DM3100			1	
2	Bomb calorimeter EN ISO 1716			1	
3	Oscilloscope DASH 8XE			1	
4	Humidity and temperature meter AR847			2	
5	Noise measurement SL-5868P			2	

10. 地球資源・地質工学科カリキュラム

**Course Planning (revised) for Engineering Program -Curriculum
of Geo-Resources and Geotechnical Engineering Department**

Third Year, Semester 1

Course	Lecturer	Code	Credits	Hours
E3S1				
Statistics		GRG E3S1 01	2 (1-1)	48
French		GRG E3S1 02	2 (0-2)	64
English		GRG E3S1 03	1 (0-1)	32
Geodesy and Topography	NEAR Mouy Leng	GRG E3S1 04	2 (1-1)	48
Engineering Mechanics	HORNG Vuthy	GRG E3S1 05	2 (1-1)	32
General Geology and Hydrogeology	KIM Vannada	GRG E3S1 06	3 (3-0)	48
Petrology and Mineralogy (Microscopic Analysis)	KONG Sangva / Prof. Shinji Tsukawaki/ Vannada KIM	GRG E3S1 07	3 (1-2)	48
Strength of Materials	HORNG Vuthy	GRG E3S1 08	2(1-1)	32
Drawing Auto CAD	THAI Soksan	GRG E3S1 09	2 (0-2)	32
<i>Total</i>			19	384

Third Year, Semester 2

Course	Lecturer	Code	Credits	Hours
E3S2				
French		GRG E3S2 01	1 (0-1)	32
English		GRE E3S2 02	2 (0-2)	64
Geo-Environment	PEN Chhorda	GRG E3S2 03	2 (1-1)	32
Structural geology	PEN Chhorda	GRG E3S2 04	2 (1-1)	32
Mineral Deposit	KONG Bo / KONG Sitha	GRG E3S2 05	2 (2-0)	32
GIS and Mapping Mining Geology	VAMOEURN Nimol	GRG E3S2 06	3 (1-2)	48
Geostatistics	VAMOEURN Nimol	GRG E3S2 07	2 (1-1)	32
Structure Analysis	HORNG Vuthy	GRG E3S2 08	2 (1-1)	32
Soil Mechanics / Lab Test	SIENG Peou	GRG E3S2 09	3 (2-1)	64
General Electro-technique	SEAN Piseth	GRG E3S2 10	1(1-0)	16
<i>Total</i>			20	384

Fourth Year, Semester 1

Course	Lecturer	Code	Credits	Hours
E4S1				
French		GRG E4S1 01	1 (0-1)	32
English		GRG E4S1 02	1 (0-1)	32
Remote sensing, Satellite Image Interpretation	No Lecturer	GRG E4S1 03	2 (1-1)	32
Mineral Exploration Technique and Prospecting	No Lecturer	GRG E4S1 04	2 (1-1)	48
Geophysics	PICH Bun Choeun/ BUN Kim Nguon ?	GRG E4S1 05	3 (1-2)	64
Geochemistry	KONG Sitha / PICH Bun Choeurn ?	GRG E4S1 06	2 (1-1)	48
Rock Mechanics	SIENG Peou/ DOK Atikagna	GRG E4S1 07	2 (1-1)	32
Earth Structures	HORNG Vuthy / DOK Atikagna	GRG E4S1 08	2 (1-1)	48
Integrated Water Resources Management	PEN Chhorda/ KIM Vannada	GRG E4S1 09	3 (2-1)	48
Total			18	384

Fourth Year, Semester 2

Course	Lecturer	Code	Credits	Hours
E4S2				
French		GRG E4S2 01	1 (0-1)	32
English		GRG E4S2 02	1 (0-1)	32
Sedimentology	Prof. Shinji Stukawaki / KIM Vannada	GRG E4S2 03	2 (2-0)	32
Ore Geometry and Reservoir Evaluation	No Lecturer	GRG E4S2 04	2 (1-1)	48
Surface Mining and Underground Mining	No Lecturer	GRG E4S2 05	3 (2-1)	64
Drilling Techniques	PHAT Bone	GRG E4S2 06	2 (1-1)	48
Rock Excavation Techniques by Blasting (Explosive)	KIM Vannada	GRG E4S2 07	2 (1-1)	48
Foundation Engineering I	SIENG Peou/ THAI Soksan	GRG E4S2 08	2 (1-1)	32
Mineral Processing	PHAT Bone	GRG E4S2 09	2 (2-0)	32
Ore Microscopy	No Lecturer	GRG E4S2 10	1 (0-1)	16
Field Study - E4S2			2	
Total			19	384


Fifth Year, Semester 1

Course	Lecturer	Code	Credits	Hours
E5S1				
French		GRG E5S1 01	1 (0-1)	32
English		GRG E5S1 02	1 (0-1)	32
Foundation Engineering II	SIENG Peou / THAI Soksan	GRG E5S1 03	2(1-1)	32
Petroleum Geology	PHAT Bone	GRG E5S1 04	1 (1-0)	16
Introduction and Fundamental of Petroleum/Gas Engineering	CHEA Samneang / ?	GRG E5S1 05	3 (3-0)	48
Petroleum Chemistry	CHEA Samneang / ?	GRG E5S1 06	2 (2-0)	32
Petroleum/Gas Resources Development	CHEA Samneang / ?	GRG E5S1 07	3 (2-1)	48
Well Logging	CHEA Samneang / ?	GRG E5S1 08	1 (1-0)	16
Mining Planning/Project	KONG Bo / KRI Nalis	GRG E5S1 09	2 (2-0)	32
Mineral Resources Economics and Management	VAMOEURN Nimol	GRG E5S1 10	3 (3-0)	48
Mining Law and Lease	KONG Bo	GRG E5S1 11	1 (1-0)	16
Mining Environment and Pollution Control	CHEA Chandara/ ?	GRG E5S1 12	1 (1-0)	16
Mining work Security	BUN Kim Nguon	GRG E5S1 13	1 (1-0)	16
Total			20	384

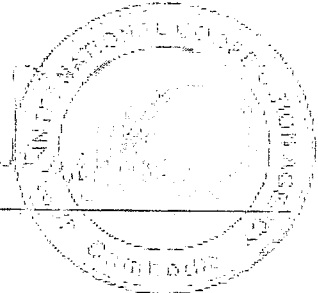
Fifth Year, Semester 2

E5S2	Credits	Hours
Final Academic Project (Research Activity and Thesis)	9	
Total	9	384

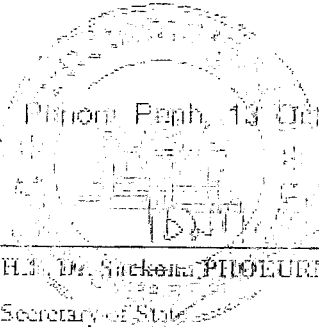
RECORD OF DISCUSSIONS
ON
THE PROJECT FOR EDUCATIONAL CAPACITY DEVELOPMENT
OF
INSTITUTE OF TECHNOLOGY OF CAMBODIA
AGREED UPON BETWEEN
MINISTRY OF EDUCATION, YOUTH AND SPORT
AND
JAPAN INTERNATIONAL COOPERATION AGENCY




Mr. Yasujiro SUZUKI
Chief Representative
Cambodia Office
Japan International Cooperation Agency
Japan



H.E. Dr. Sackentha PHOLEUNG
Secretary of State
Ministry of Education, Youth and Sport
Kingdom of Cambodia


Phnom Penh, 13 October 2011



Dr. Raouly OUM
Director
Institute of Technology of Cambodia
Kingdom of Cambodia

Based on the minutes of meetings on the Detailed Planning Survey on the Project for Human Resource Development for Industry (hereinafter referred to as “the Project”), signed on August 5, 2011, between the Ministry of Education, Youth and Sport (hereinafter referred to as “MoEYS”) and the Japan International Cooperation Agency (hereinafter referred to as “JICA”), JICA held a series of discussions with MoEYS and relevant organizations to develop a detailed plan of the Project.

Both parties agreed the details of the Project and the main points discussed as described in the Appendix 1 and the Appendix 2 respectively.

Both parties also agreed that MoEYS, the counterpart to JICA, will be responsible for the implementation of the Project in cooperation with JICA, coordinate with other relevant organizations and ensure that the self-reliant operation of the Project is sustained during and after the implementation period in order to contribute toward social and economic development of Cambodia.

The Project will be implemented within the framework of the Agreement on Technical Cooperation signed on June 17, 2003 (hereinafter referred to as “the Agreement”) and the Note Verbales exchanged on August 9, 2011 between the Government of Japan (hereinafter referred to as “GOJ”) and the Royal Government of Cambodia.

Appendix 1: Project Description

Appendix 2: Main Points Discussed

Appendix 3: Minutes of Meetings on the Detailed Planning Survey

PROJECT DESCRIPTION

Both parties confirmed that there was no change in the Project Description agreed on in the minutes of meetings on the concerning Detailed Planning Survey on the Project signed on August 5, 2011 (Appendix 3), except the following.

- The title of the Project is amended to “The Project for Educational Capacity Development of Institute of Technology of Cambodia”
- The duration of the project is amended from 3 years to 4 years, starting on the day when this Record of Discussion is signed. The Project Design Matrix (Annex1) and the Plan of Operation (Annex2) are revised as attached accordingly.

The Record of Discussions may be amended by the minutes of meetings between JICA and MoEYS. The minutes of meetings will be signed by authorized persons of each side who may be different from the signers of the record of discussions.

MAIN POINTS DISCUSSED

(To be added, if any)

Handwritten signature and initials in the bottom right corner of the page.

Project Design Matrix (PDM)

ANNEX 1

Project Title: The Project for Educational Capacity Development of Institute of Technology of Cambodia (ITC)
Duration: Four years

Target Group : Academic staff of three target Departments of ITC (Electrical and Energy Engineering, Industrial and Mechanical Engineering, and Geo-resources and Geotechnical Engineering)

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<p>(Overall Goal) Graduates with stronger practical skills are developed by the target departments of ITC</p>	<p>L 70% of employers of ITC graduates consider graduates after the Project have stronger practical skills than those before the Project.</p>	<p>A Questionnaire/Interview with employers in public and private sectors</p>	<p>Trained academic staff stay with ITC</p>
<p>(Project Purpose) The quality of education is improved with more emphasis on practice and experiments at the target departments of ITC as a leading university.</p>	<p>L Evaluation committee to be established for the Project assesses the quality of education is improved with more emphasis on practice and experiments.</p>	<p>A Result of evaluation by the evaluation committee for the Project</p>	
<p>(Outputs) 1. Syllabus for course works is improved with more practice and experiments.</p>	<p>1.1. Ratio of practice and experiments in curriculum increases 1.2. Number of students per equipment decreases. 1.3. Number of revised syllabus 1.4. Number of revised instruction for practices and experiments.</p>	<p>A Record of each Department of ITC</p>	
<p>2. Teaching method of academic staff is enhanced to conduct practice-oriented education.</p>	<p>2.1. All heads of the departments consider capacity of academic staff is enhanced to conduct practice-oriented education. 2.2. Faculty Development activity is regularly conducted.</p>	<p>A Record of each Department of ITC A Questionnaire/Interview to heads of departments A Record of faculty development activity</p>	
<p>3. Equipment for experiments is properly utilized for practice and experiment.</p>	<p>3.1. Regulation for utilization of equipment is developed. 3.2. Periodical review is conducted by the taskforce.</p>	<p>A Record of each Department of ITC, Reports from taskforce on periodical review</p>	
<p>(Activities) 1-1. Set up a taskforce for syllabus revision. 1-2. Review and revise syllabus and instruction for practices and experiments 1-3. Conduct a periodical review on the implementation of the revised syllabus and instruction for practices and experiments 2-1. Train academic staff by model teaching by Japanese and/or ASEAN country experts 2-2. Train academic staff by joint research activities with Japanese and/or ASEAN country experts. 2-3. Conduct Faculty Development activities to share good practices in teaching among academic staff 3-1. Set up a taskforce for utilization of equipment 3-2. Develop a regulation for utilization of equipment 3-3. Conduct a periodical review on utilization of equipment by the taskforce</p>	<p>Inputs 1. JICA a) Long-term Experts: Chief Advisor and Project Coordinator b) Short-term Experts: Three to four experts per department per year from Japan and/or ASEAN country c) Provision of equipment d) Short-term training of academic staff in Japan: three to four staff per department per year 2. Cambodia a) Assignment of necessary administrative and academic staff for implementation of the Project b) Provision of office space for experts c) Provision of maintenance costs of facilities and equipment d) Provision of running expenses for the implementation of the Project</p>	<p>Needs for the engineering fields do not change drastically.</p>	

Plan of Operation for the Project (tentative)

Project Period	Preparation period	1st Year				2nd Year				3rd Year				4th Year				Responsible Person
		I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	
Output 1. Syllabus for course works is improved with more practice and experiments.																		
1	Set up a taskforce for syllabus revision.																	Director
2	Review and revise syllabus and instruction for practices and experiments.																	Head of Departments
3	Conduct a periodical review on the implementation of the revised syllabus and instruction for practices and experiments.																	Head of Departments
Output 2. The teaching method of academic staff is enhanced to conduct practice-oriented education.																		
1	Train academic staff by model teaching by Japanese and/or ASEAN country experts.																	Head of Departments
2	Train academic staff by joint research activities with Japanese and/or ASEAN country experts.																	Head of Departments
3	Conduct Faculty Development activities to share good practices in teaching among academic staff.																	Director
Output 3. The equipment for experiments is properly utilized for practice and experiments.																		
1	Set up a taskforce for utilization of equipment.																	Director
2	Develop regulation for utilization of equipment.																	Head of Departments
3	Conduct a periodical review on utilization of equipment by the taskforce.																	Head of Departments

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**MINUTES OF MEETING
BETWEEN
JAPAN INTERNATIONAL COOPERATION AGENCY
AND
THE AUTHORITIES CONCERNED OF
THE ROYAL GOVERNMENT OF CAMBODIA
ON
THE PROJECT FOR HUMAN RESOURCE
DEVELOPMENT FOR INDUSTRY**

The Detailed Planning Survey Team (hereinafter referred to as "the Team") organized by the Japan International Cooperation Agency (hereinafter referred to as "JICA"), headed by Dr. Junichi Takada, conducted a survey from July 24th to August 5th, 2011, for the purpose of the implementation of the Technical Cooperation Project for "Educational Capacity Development of Institute of Technology of Cambodia" (hereinafter referred to as "the Project").

During its stay in the Kingdom of Cambodia, the Team had a series of discussions with the authorities concerned of the Royal Government of Cambodia, jointly developed idea and exchanged views on the Project.

As a result of the discussions, both sides agreed the matters referred to in the document attached hereto.

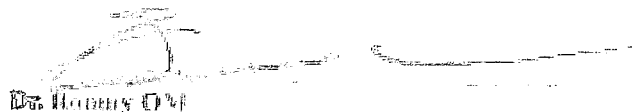
Phnom Penh, August 5, 2011



Prof. Dr. Junichi TAKADA
Leader
Detailed Planning Survey Team
Japan International Cooperation Agency
Japan



H.E. Dr. Sachona PHOEURNG
Secretary of State
Ministry of Education, Youth and Sports
Kingdom of Cambodia



Dr. Hombry OUK
Director
Institute of Technology of Cambodia
Kingdom of Cambodia

I. BACKGROUND

The share of industrial sector in GDP in Cambodia is limited to 22%, and major industries are garment and construction industries. The diversification of industries and expansion of mineral industry are regarded as necessary steps for further economic growth of Cambodia.

The Royal Government of Cambodia (hereinafter referred to as "RGC"), with its National Development Strategy named "Rectangular Strategy", is making efforts for the promotion of trade and investment, development of small & medium sized companies, and development of human resources with skills matching to the needs of the labor market. However, business community including foreign investing companies is facing the shortage of engineers and technicians who can manage or design the production lines of factories.

On the other hand, development of mineral resources is progressing in recent years in Cambodia because of the improvement of technology and the progress of removal of landmines.

Under these circumstances, RGC requested the Government of Japan for assistance to improve educational capacity of ITC. Responding to this request, the Detailed Planning Survey team was dispatched to Cambodia to discuss and agree on a framework of the technical cooperation project with the Cambodian side.

II. OUTLINE OF THE PROJECT

1. Title of the Project

Project for Educational Capacity Development of Institute of Technology of Cambodia

2. Overall Goal

Graduates with stronger practical skills are developed by the target departments of ITC (Electrical and Energy Engineering, Industrial and Mechanical Engineering, and Geo-resources and Geotechnical Engineering)

3. Project Purpose

The quality of education is improved with more emphasis on practice and experiments at the target departments of ITC as a leading university.

4. Outputs

- (1) Syllabus for course works is improved with more practice and experiments.
- (2) Teaching method of academic staff is enhanced to conduct practice-oriented

education.

(3) Equipment for experiments is properly utilized for practice and experiments.

5. Activities

1-1. Set up a taskforce for syllabus revision.

1-2. Review and revise syllabus and instruction for practices and experiments.

1-3. Conduct a periodical review on the implementation of the revised syllabus and instruction for practices and experiments.

2-1. Train academic staff by model teaching by Japanese and/or ASEAN country experts.

2-2. Train academic staff by joint research activities with Japanese and/or ASEAN country experts.

2-3. Conduct Faculty Development activities to share good practices in teaching among academic staff

3-1. Set up a taskforce for utilization of equipment.

3-2. Develop a regulation for utilization of equipment.

3-3. Conduct a periodical review on utilization of equipment by the taskforce.

6. Input

(1) Input by JICA

(a) Dispatch of Experts

Experts will be dispatched according to the necessity for the implementation of the Project. Tentative plan is as follows:

- Long-term experts in the fields of Chief Advisor and Project Coordinator
- Short-term experts in the three target fields, namely, Electrical and Energy, Industrial and Mechanical, and Geo-resources and Geotechnical Engineering

(b) Short-term training of academic staff of ITC in Japan

(c) Machinery and equipment necessary for the implementation of the Project. The detailed specification and quantity of equipment to be provided each year will be discussed in principle every year between JICA experts and Cambodian counterpart personnel, based on the annual plan of the Project, within the allocated budget of the Japanese Fiscal Year (JFY: start in April and end in March).

(2) Input by Cambodia (MoEYS and ITC)

MoEYS and ITC will take necessary measures to provide at its own expense:

- (a) Services of MoEYS's and ITC's counterpart personnel and administrative personnel as referred to in II-7;

- (b) Suitable office space with necessary equipment;
- (c) Supply or replacement of machinery, equipment, instruments, vehicles, tools, spare parts and any other materials necessary for the implementation of the Project other than the equipment provided by JICA;
- (d) Information as well as support in obtaining medical service;
- (e) Credentials or identification cards;
- (f) Available data (including maps and photographs) and information related to the Project;
- (g) Running expenses necessary for the implementation of the Project;
- (h) Expenses necessary for transportation within Cambodia of the equipment referred to in II-6(c) as well as for the installation, operation and maintenance thereof; and
- (i) Necessary facilities to the JICA experts and members of the JICA missions for the remittance as well as utilization of the funds introduced into Cambodia from Japan in connection with the implementation of the Project.

7. Implementation Structure

The Project organization chart is given in the Annex 3. The roles and assignments of relevant organizations are as follows:

(1) MoEYS

(a) Secretary of State, MoEYS, as the Project Director, will be responsible for overall management of the Project.

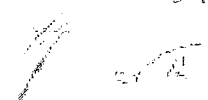
(2) ITC

(a) Director of Institute of Technology of Cambodia, as the Project Manager, will be responsible for administration and implementation of the Project.

(b) Academic and administrative staff of the target three departments will be responsible for implementation of daily activities of the Project.

(3) JICA Experts

The JICA experts will give necessary technical guidance, advice and recommendations to MoEYS and ITC on any matters pertaining to the implementation of the Project.

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(4) Joint Coordinating Committee

Joint Coordinating Committee (hereinafter referred to as "JCC") will be established in order to facilitate inter-organizational coordination. JCC will be held at least once a year and whenever deems it necessary. JCC will approve an annual work plan, review overall progress, conduct monitoring and evaluation of the Project, and exchange opinions on major issues that arise during the implementation of the Project. A list of proposed members of JCC is shown in the Annex 4.

8. Project Site(s) and Beneficiaries

The Project site will be ITC. Direct beneficiaries will be academic and administrative staff of the targeted three departments of ITC. Indirect beneficiaries will be students of the targeted three departments of ITC, and public and private sector for which graduates work.

9. Duration

The duration of the Project will be three (3) years.

10. Environmental and Social Considerations

MoEYS and ITC agreed to abide by 'JICA Guidelines for Environmental and Social Considerations' in order to ensure that appropriate considerations will be made for the environmental and social impacts of the Project.

III. UNDERTAKINGS OF MoEYS

1. MoEYS and ITC will take necessary measures to:

- (1) ensure that the technologies and knowledge acquired by the Cambodian nationals as a result of Japanese technical cooperation contributes to the economic and social development of Cambodia, and that the knowledge and experience acquired by the personnel of Cambodia from technical training as well as the equipment provided by JICA will be utilized effectively in the implementation of the Project; and
- (2) grant privileges, exemptions and benefits to the JICA experts and members of the JICA missions referred to in II-7 above and their families, which are no less favorable than those granted to experts and members of the missions and their

families of third countries or international organizations performing similar missions in Cambodia.

2. Other privileges, exemptions and benefits will be provided in accordance with the Agreement of Technical Cooperation signed on June 17, 2003 between the Government of Japan and the Royal Government of Cambodia.

IV. EVALUATION

JICA and MoEYS will jointly conduct the following evaluations and reviews.

1. Mid-term review at the middle of the cooperation term
2. Final evaluation during the last six (6) months of the cooperation term

V. PROMOTION OF PUBLIC SUPPORT

For the purpose of promoting support for the Project, MoEYS and ITC will take appropriate measures to make the Project widely known to the people of Cambodia.

VI. MUTUAL CONSULTATION

JICA and MoEYS/ITC will consult each other whenever any major issues arise in the course of Project implementation.

VII. PROJECT DESIGN MATRIX (PDM)

A Project Design Matrix (hereinafter referred to as "PDM") is usually used for Japanese technical cooperation projects to manage and implement the projects efficiently and effectively. It is also used as a reference for monitoring and evaluating the projects.

The drafted PDM attached in Annex 1 will be applied to the Project with the following understanding:

- PDM is a logically designed matrix which defines the initial understanding of the framework for the Project and indicates the logical steps towards the achievement of the Project Purpose.
- PDM is to be flexibly revised according to the progress and achievement of the Project upon agreement between Indonesian side and JICA.

VIII. PLAN OF OPERATION (PO)

Drafted Plan of Operations is attached in ANNEX 2.

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IX. RECORD OF DISCUSSIONS (RD)

Drafted Record of Discussions is attached in ANNEX 5.

X. OTHERS

1. Project Title

It was proposed by the both sides that the original Project title "The Project for Human Resource Development for Industry" be changed to be "The Project for Educational Capacity Development of Institute of Technology of Cambodia", in order to specify the target of the Project.

2. Revision of Syllabus and Instruction for Practices and Experiments

Both sides confirmed that the revision of syllabus and instruction for practices and experiments will be implemented by concerned academic staffs of ITC at ITC's own expenses, with advice from Japanese experts. Revised syllabus, instruction for practices and experiments and other materials to be developed under the Project will be produced in English language.

3. Participation of JICA in the Council of Administration of ITC

It was proposed by the both sides that JICA participates in the Council of Administration (C.A.) of ITC as an observer first, and as a full member with an approval of C.A. in the future.

4. Training of Academic Staff by Joint Research Activities (Activity 2-2)

Both sides confirmed that the primary aim of joint research activities under Activity 2-2 is to enhance problem solving skills of academic staff by conducting applied research projects to address issues that the industry and society of Cambodia face, rather than to enhance purely scientific research capacity of academic staff by conducting academic basic research projects.

5. Faculty Development Activities (Activity 2-3)

Both sides confirmed that Faculty Development activities under Activity 2-3 include seminars to share good practices and experiences in teaching among academic staff.

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- Annex 1 Project Design Matrix
- Annex 2 Tentative Plan of Operation
- Annex 3 Project Organization Chart
- Annex 4 A List of Proposed Members of Joint Coordinating Committee
- Annex 5 Draft Record of Discussions

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Project Design Matrix (PDM)

ANNEX A

Project Title: The Program for Educational Capacity Development of Technical of Cambodia (ITC)

Duration: Three years

Target Group: Academic staff of three target Departments of ITC (Mechanics and Energy Engineering, Mechanical Engineering, and Geotechnical Engineering)

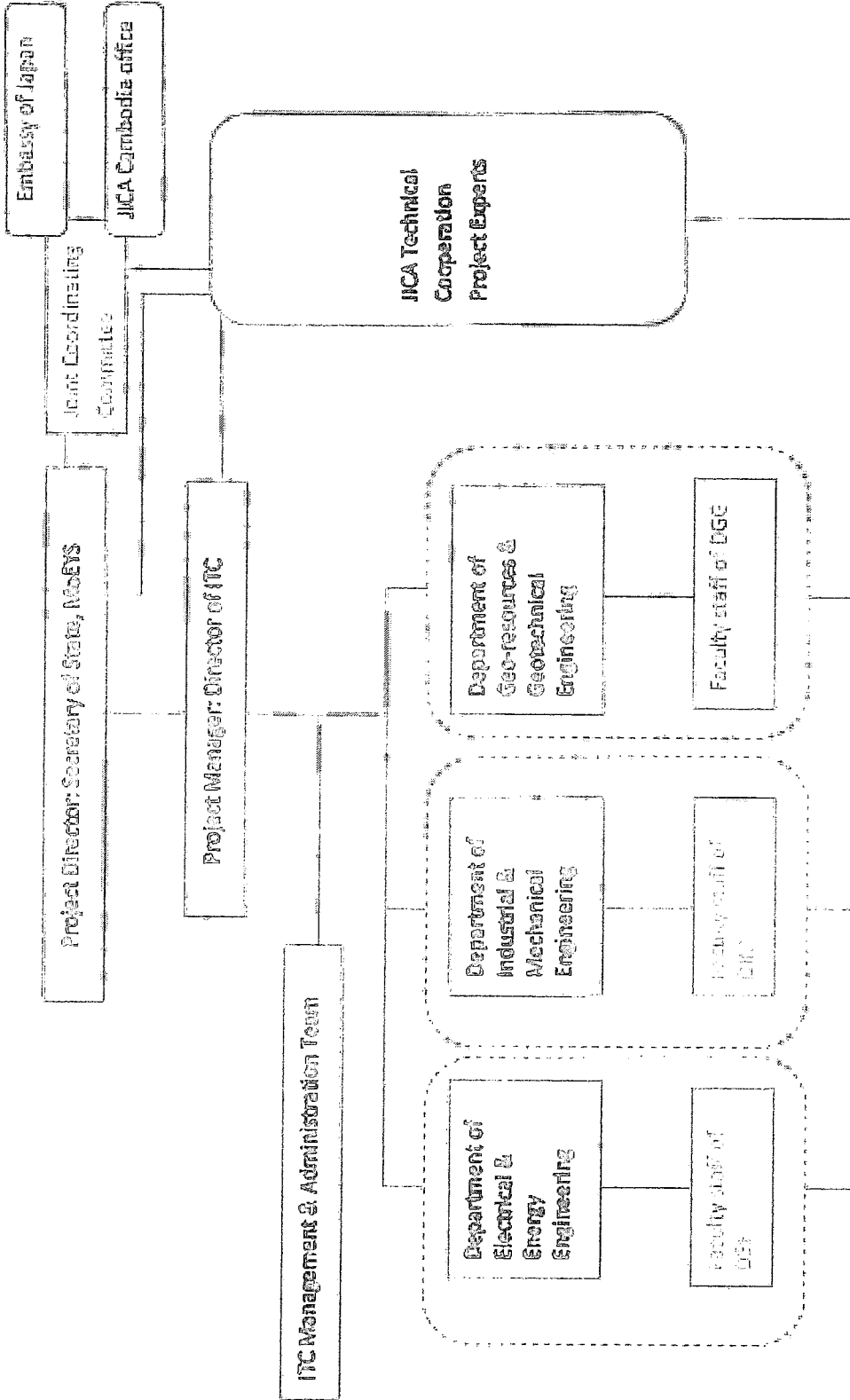
<p>(Overall Goal) Graduates with stronger practical skills are developed by the target departments of ITC.</p>	<p>1. The number of employers of ITC graduates consider graduates after the Project have stronger practical skills than those before the Project</p>	<p>Questionnaire/Interview with employers in public and private sectors</p>	<p>Trained academic staff stay with ITC</p>
<p>(Project Purpose) The quality of education is improved with more emphasis on practice and experiments at the target departments of ITC as a leading university.</p>	<p>1. Evaluation committee to be established for the Project assesses the quality of education is improved with more emphasis on practice and experiments</p>	<p>Result of evaluation by the evaluation committee for the Project</p>	
<p>(Outputs) 1. Syllabus for course works is improved with more practice and experiments 2. Teaching method of academic staff is enhanced in conducting practice-oriented education</p>	<p>1.1. Ratio of practice and experiments in curriculum increases 1.2. Number of students per equipment decreases 1.3. Number of revised syllabus 1.4. Number of revised instruction for practices and experiments 2.1. All heads of the departments consider capacity of academic staff is enhanced to conduct practice-oriented education. 2.2. Faculty Development activity is regularly conducted.</p>	<p>Record of each Department of ITC Record of each Department of ITC Questionnaire/Interview to heads of departments Record of faculty development activity Record of each Department of ITC, Reports from taskforce on periodical review</p>	
<p>1. Equipment for experiments is properly utilized for practice and experiments</p>	<p>3.1. Regulation for utilization of equipment is developed. 3.2. Periodical review is conducted by the taskforce.</p>	<p>Record of each Department of ITC, Reports from taskforce on periodical review</p>	
<p>(Activities) 1-1. Set up a taskforce for syllabus revision. 1-2. Review and revise syllabus and instruction for practices and experiments 1-3. Conduct a periodical review on the implementation of the revised syllabus and instruction for practices and experiments. 2-1. Train academic staff by model teaching by Japanese and/or ASEAN country experts. 2-2. Train academic staff by joint research activities with Japanese and/or ASEAN country experts. 2-3. Conduct Faculty Development activities to share good practices in teaching among academic staff 3-1. Set up a taskforce for utilization of equipment 3-2. Develop a regulation for utilization of equipment 3-3. Conduct a periodical review on utilization of equipment by the taskforce.</p>	<p>1.1.1. Regulation for utilization of equipment is developed. 1.1.2. Periodical review is conducted by the taskforce. 2.1.1. All heads of the departments consider capacity of academic staff is enhanced to conduct practice-oriented education. 2.1.2. Faculty Development activity is regularly conducted. 3.1.1. Regulation for utilization of equipment is developed. 3.1.2. Periodical review is conducted by the taskforce.</p>	<p>Record of each Department of ITC, Reports from taskforce on periodical review Questionnaire/Interview to heads of departments Record of faculty development activity Record of each Department of ITC, Reports from taskforce on periodical review</p>	<p>Needs for the engineering fields do not change drastically.</p>

Plan of Operation for the Project (tentative)

Project Period	Preparation period	1st Year				2nd Year				3rd Year				Responsible Person	
		I	II	III	IV	I	II	III	IV	I	II	III	IV		
Output 1. Syllabus for course works to be improved with more practice and experiments.															
1	Set up a taskforce for syllabus revision.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										Director
2	Review and revise syllabus and instruction for practices and experiments.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										Head of Departments
3	Conduct a periodical review on the implementation of the revised syllabus and instruction for practices and experiments.									<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		Head of Departments
Output 2. The teaching method of academic staff is enhanced to conduct practice-oriented education.															
1	Train academic staff by model teaching by Japanese and/or ASEAN country experts.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										Head of Departments
2	Train academic staff by joint research activities with Japanese and/or ASEAN country experts.														Head of Departments
3	Conduct Faculty Development activities to share good practices in teaching among academic staff.														Director
Output 3. The equipment for experiments is properly utilized for practice and experiments.															
1	Set up a taskforce for utilization of equipment.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										Director
2	Develop regulation for utilization of equipment.														Head of Departments
3	Conduct a periodical review on utilization of equipment by the taskforce.														Head of Departments

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Organizational Structure



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List of Proposed Members of the Joint Coordinating Committee

1. Chairperson: Secretary of State, Ministry of Education, Youth and Sports
2. Vice-chairperson: Director of the Institute of Technology of Cambodia
3. Members:
 - Deputy Director of ITC for International Cooperation and Research
 - Deputy Director of ITC for Planning and Development
 - Heads of the three target Departments of ITC
 - Representative of Ministry of Industry, Mines and Energy
 - Chief Representative of JICA Cambodia Office
 - Chief adviser of the Project
 - JICA Experts
4. Observers: Officials of the Japanese Embassy in Cambodia
Other personnel invited by JCC

  JICA-Bo

RECORD OF DISCUSSIONS
ON
THE EDUCATIONAL CAPACITY DEVELOPMENT OF
INSTITUTE OF TECHNOLOGY OF CAMBODIA
IN
CAMBODIA
AGREED UPON BETWEEN
MINISTRY OF EDUCATION, YOUTH AND SPORTS
AND
JAPAN INTERNATIONAL COOPERATION AGENCY

Phnom Penh, 2011

Mr. Yasujiro SUZUKI
Chief Representative
Cambodia Office
Japan International Cooperation Agency
Japan

H.E. Dr. Boudoua PHOUKUNG
Secretary of State
Ministry of Education, Youth and Sports
Kingdom of Cambodia

Dr. Bouany OM
Director
Institute of Technology of Cambodia
Kingdom of Cambodia

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Based on the minutes of meetings on the Detailed Planning Survey on the Educational Capacity Development of Institute of Technology of Cambodia (hereinafter referred to as "the Project") signed on August 5, 2011, between Ministry of Education, Youth and Sports (hereinafter referred to as "MoEYS") and the Japan International Cooperation Agency (hereinafter referred to as "JICA"), JICA held a series of discussions with MoEYS and relevant organizations to develop a detailed plan of the Project.

Both parties agreed the details of the Project and the main points discussed as described in the Appendix 1 and the Appendix 2 respectively.

Both parties also agreed that MoEYS, the counterpart to JICA, will be responsible for the implementation of the Project in cooperation with JICA, coordinate with other relevant organizations and ensure that the self-reliant operation of the Project is sustained during and after the implementation period in order to contribute toward social and economic development of Cambodia.

The Project will be implemented within the framework of the Agreement on Technical Cooperation signed on June 17, 2003 (hereinafter referred to as "the Agreement") and the Note Verbales exchanged on [date] between the Government of Japan (hereinafter referred to as "GOF") and the Royal Government of Cambodia.

Appendix 1: Project Description

Appendix 2: Main Points Discussed

Appendix 3: Minutes of Meetings on the Detailed Planning Survey

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PROJECT DESCRIPTION

Both parties confirmed that there is no change in the Project Description agreed on in the minutes of meetings on the concerning Detailed Planning Survey on the Project signed on August 5, 2011] (Appendix 3).

The Record of Discussions may be amended by the minutes of meetings between JICA and MoEYS. The minutes of meetings will be signed by authorized persons of each side who may be different from the signers of the record of discussions.

  JF Po

MAIN POINTS DISCUSSED

(To be added, if any)

✓ 4 17 8
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