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# MINUTES OF MEETINGS
# BETWEEN THEJAPANESE PROJECT CONSULTATION TEAM
# AND
# THE AUTHORITIES CONCERNED OF THE GOVERNMENT
# OF THE KINGDOM OF SAUDI ARABIA
# ON JAPANESE TECHNICAL COOPERATION FOR
# THE DEVELOPMENT AND TRAINING CENTER PROJECT

The Japanese Project Consultation Team (hereinafter referred to as "the Japanese Team"), organized by Japan International Cooperation Agency (hereinafter referred to as "JICA") and headed by Mr. Masahiro Yoshikawa, visited the Kingdom of Saudi Arabia from November 14 to November 27, 2008, for the Purpose of conducting the consultation for the Project, "Development and Training Center Project" (hereinafter referred to as "the Project").

During its stay in the Kingdom of Saudi Arabia, the Japanese Team had a series of discussions with the authorities concerned of the Government of the Kingdom of Saudi Arabia, jointly reviewed the achievement of the Project, and exchanged views on the project performance and the value judgments on the Project from the view points of five (5) criteria of the project evaluation.

As a result of the discussion, the Japanese Team and the Saudi authorities concerned agreed the matter referred in the document attached hereto.

Riyadh, November 25, 2008

| | |
|---|---|
| Mr. Masahiro Yoshikawa<br>Team Leader,<br>Japanese Project Consultation Team<br>Japan International Cooperation Agency<br>Japan | Dr. Fahd A. Al Tuwaijry<br>Vice Governor for Joint Training<br>Technical and Vocational Training Corporation,<br>Kingdom of Saudi Arabia |

ATTACHED DOCUMENTS

1. Introduction

1-1 Preface

As the Kingdom of Saudi Arabia faced rapid increase of the youth population, Technical and Vocational Training Corporation (TVTC, previous GOTEVOT; General Organization of Technical Education and Vocational Training), has decided to increase the number of College of Technology. With the expansion of the colleges, it is necessary to enhance the capabilities of the college trainers for conducting the education responsive to the industrial demand.

The TVTC (previous GOTEVOT) has decided to establish the Development and Training Center (DTC) for the purpose of in-service training of college trainers, and requested the technical assistance from the Japanese Government.

Based on series of discussions, the official Record of Discussion (R/D) of the Project was signed on September 1st 2004, followed by signing the PDM and the PO on July 30th 2005.

The Project was originally planned to finish in August 2007, but as a result of the terminal evaluation conducted in February to March 2007, the Project was extended until March 2009. Now that one year and two months have elapsed since the start of the extension period, and project remaining period is approximately four months, the Japanese Team was dispatched to the Kingdom of Saudi Arabia to review the actual outcome and the current achievement of the Project (mainly about those after the terminal evaluation) as well as to execute an overall evaluation of the Project.

1-2 Objectives of the Review

The objectives of the visit of Japanese Team are as follows;

(1) To review the actual outcome and the current achievement of the Project (mainly about those after the terminal evaluation),

(2) To grasp Inputs of both sides and to summarize the implementation process (mainly about those after the terminal evaluation),

(3) To execute an overall evaluation on the achievement of the Project according to the five evaluation criteria, i.e. relevance, effectiveness, efficiency, impact and sustainability,

(4) To have a series of discussion on the remaining concerns, its measures to be taken,

(5) To make recommendations for remaining period as well as after the completion of the Project, and

(6) To draw lessons learnt from the Project for the same field of other technical

cooperation.

1-3 Participants of the Review and Evaluation

1-3-1 Japanese Side

| Name | Title |
|---|---|
| Masahiro Yoshikawa | Team Leader |
| Shigeru Ikemori | Technical Education |
| Sachiko Goto | Cooperation Planning |
| Seiji Sugimoto | Evaluation Analysis |

1-3-2 Saudi Side

| Name | Title |
|---|---|
| Fahd A. Al Tuwaijry | Vice Governor for Joint Training, TVTC |
| Ibraheem Al Shafi | General Director of DTC |
| Yasser Al-Humaid | Head of Specialized Training Department |

1-4 Methodology of the Study

1-4-1 Preparation of PDM for evaluation

The Project Design Matrix (PDM) jointly approved on June 16, 2007, is a guideline of the review and evaluation together with the plan of operation presented in the R/D of the Project. However, the PDM needs to be changed in the following points for the consistency in the logical linkage among the components of the project, and both sides agreed to revise it as shown in ANNEX (1) (PDM for evaluation).

a) There is a logical leap between the Project Purpose "Training capabilities of the instructors of DTC are improved in the above mentioned fields (mechanical, electrical and construction technologies)" and the Overall Goal "Technical colleges in the Kingdom can produce students who are equipped with the required technical level of industries in the fields of mechanical, electrical and construction technologies". Direct effect of the improvement of the DTC instructors' capabilities should be the improvement of the knowledge and skills of the college trainers who participate in the training in DTC, so it is inserted as the Overall Goal and the previous one becomes the Super Goal which is positioned above the Overall Goal. The indicators of the new Overall Goal are shown in ANNEX (1).

b) The previous PDM had the following duplications in the indicators of the Project Purpose and of the Outputs;

- Number of training courses prepared by the Project (indicator 2 in Project Purpose and 2-1 in Output)
- Number of courses implemented in the DTC under the Project (indicator 3 in Project Purpose and 3-3 in Output)

Because those are considered as the indicators of the Outputs, they should be

removed from the indicators of the Project Purpose. Instead, new indicators shown in ANNEX (1) will be added as those for the Project Purpose (indicators 1 and 2).

c) The words "teacher" and "student" are not appropriate in consideration of the roles and functions of TVTC, which provides practical training, so it should be replaced with "trainer" and "trainee".

1-4-2 Criteria for evaluation

Achievement of the Project has been evaluated by the following five criteria through discussion among the both sides.

(1) Relevance

Relevance of the Project is reviewed by examining whether project purpose and overall goal are in consistent with the development policy of the Kingdom of Saudi Arabia and needs of beneficiaries as well as Japan's aid policy.

(2) Effectiveness

Effectiveness of the Project is assessed with the degree to which the project purpose has been achieved. It is also considered how output has contributed towards achieving the project purpose.

(3) Efficiency

Efficiency of the Project implementation is analyzed with the emphasis on the relationship between output and input in terms of timing, quality and quantity.

(4) Impact

Impact of the Project activities is forecasted by both positive and negative changes caused by the project.

(5) Sustainability

Sustainability of the Project is assessed in policy & institutional, organizational & financial, and technical aspects by examining the extent to which the achievements of the Project are to be sustained or expanded after the Project is completed.

2. Outline of the Project

2-1 Summary of the Project

Summary of the Project is as follows (reference is made to ANNEX (1) for details);

(1) Super Goal

Technical colleges in the Kingdom can produce trainees who are equipped with the required technical level of industries in the fields of mechanical, electrical and construction technologies.

(2) Overall Goal

Knowledge and skills of the trainers of technical colleges are improved in the target fields.

(3) Project Purpose

Training capabilities of the instructors of Development and Training Center are improved in the above mentioned fields.

(4) Outputs

1) The needs on the trainers training for the college trainers in the target fields are identified.
2) The training programs for the trainers are developed.
3) The training systems for the college trainers are developed.
4) The management systems of the DTC for training programs in the above mentioned fields are established.

3. Verification of Project Performance and Implementation Process

3-1 Input (after the terminal evaluation)

3-1-1 Input from Japanese side

Japanese side made following inputs to the Project.

(1) Dispatch of Long-term experts: In total 5 experts with 94.8 M/M
(2) Dispatch of Short-term experts: In total 5 experts with 6.0 M/M
(3) Provision of Equipment: In total 26,619,000 JPY
(4) Counterpart training outside Saudi Arabia: In total 8 C/Ps in Indonesia, 3 C/Ps in Malaysia, 2 C/Ps in UAE
(5) Operating expenses: In total 12,459,000 JPY

3-1-2 Input from Saudi side

Saudi side made following inputs to the Project.

(1) Assignment of Project management personnel: 1 Project Director and 1 Project Manager
(2) Assignment of technical counterpart: In total 8 technical counterparts
(3) Building and facilities: Office space for experts, training rooms and workshops
(4) Provision of equipment: In total 500,000 SR (about 15,000,000 JPY*)
(5) Operating expenses: In total 3,400,000 SR (about 102,000,000 JPY*)

*1 SR = 30 JPY

3-2 Outputs (mainly after the terminal evaluation)

3-2-1 Output 1: "The needs on the trainer training for the college trainers in the target fields are identified."

The output was concluded as achieved at the time of terminal evaluation with the fact that NOSS was developed by TVTC and 3 - 5 training subjects for each target field were selected based on the analysis of the college curriculum.

Number of applications for the training courses (average 1.6 times more than the acceptable numbers for each course) and high rating of the evaluation on course objectives (details shown in the chart below) indicate that those selected subjects meet

the training needs of the college trainers.

■ Evaluation on course objectives

| Field | Subject | Training Course | Result of Evaluation about the objective* |
|---|---|---|---|
| Electrical Technology | PLC | PLC Basic Function (LOGO) | 92.50 |
| | | PLC STEP7 | (course has not conducted yet) |
| | | Pneumatic & Elecro-Pneumatic | (course has not conducted yet) |
| | | PLC & Pneumatic | (course has not conducted yet) |
| | Power Electronics | Power Electronics (1) | (just conducted and under analysis) |
| | | Power Electronics (2) | 45.00 |
| | Drive Technology | Drive Technology | (course has not conducted yet) |
| | Automatic Control | Automatic Control (1)-(3) | (just conducted and under analysis) |
| | Mechatronics | Mechatronics (1)-(2) | 80.90 |
| | (includes the above few subjects and not categorized in one of them) | Industrial Automation & Drive System | 84.29 |
| Mechanical Technology | CAD | 3D CAD | 93.50 |
| | CNC | CAM & CNC Milling | 91.43 |
| | Forming Technology | Laser Cutting | 96.67 |
| Construction Technology | 3D CAD | 3D CAD Revit | 89.34 |
| | | 3D CAD AutoCAD Architecture | 100 |
| | Project Management | Project Management | 86.67 |
| | Architectural Technology | | |

*Weighted average of the participants' answers to the question "How did you evaluate course objectives according to your requirement?" in the questionnaire survey conducted at the end of the training. Participants are requested to answer out of "Very Good" (100%), "Good" (80%), "Fair" (60%), "Poor" (40%), "Very Poor" (20%). The evaluation scores of the training courses conducted more than once are the average of all the times.

Regarding the subject with lower evaluation (Power Electronics 2 in Electrical field), the rating of the participants varied from "Very Good (100%)" to "Very Poor (20%)", and 3 participants out of 8 answered more than "Fair" (including one "Very Good"). It is, therefore, considered that the reason of lower evaluation is a mismatch between the individual needs of the participants and the objective of the course. It can be said that it is not a problem of the subject itself, but a problem of the selection process of the suitable candidates.

3-2-2 Output 2: "The training programs for the college trainers are developed."

The output has been mostly achieved for the following reasons.

(1) Number of training courses developed by the Project

13 training courses in Electrical field, 3 in Mechanical field and 3 in Construction field are developed. The lineup of the developed courses is as follows;

■ Lineup of developed courses

| Field | Subject | Training Course | Number of participants | Duration |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| Electrical Technology | PLC | PLC Basic Function (LOGO) | 5-10 | 5 days |
| | | PLC STEP7 | 5-10 | ditto |
| | | Pneumatic & Elecro-Pneumatic | 4-8 | ditto |
| | | PLC & Pneumatic | 4-8 | ditto |
| | Power Electronics | Power Electronics (1) | 5-10 | ditto |
| | | Power Electronics (2) | 5-10 | ditto |
| | Drive Technology | Drive Technology | 4-8 | ditto |
| | Automatic Control | Automatic Control (1) | 4-8 | ditto |
| | | Automatic Control (2) | 4-8 | 2 weeks (can be divided for 2 courses) |
| | | Automatic Control (3) | 4-8 | 5 days |
| | Mechatronics | Mechatronics (1) PLC | 5-10 | ditto |
| | | Mechatronics (2) Robotics | 4-8 | ditto |
| | (includes the above few subjects and not categorized in one of them) | Industrial Automation & Drive System | 10-20 | ditto |
| Mechanical Technology | CAD | 3D CAD | 8 | ditto |
| | CNC | CAM & CNC Milling | 8 | ditto |
| | Forming Technology | Laser Cutting | 6 | ditto |
| Construction Technology | 3D CAD | 3D CAD Revit | 6 | ditto |
| | | 3D CAD AutoCAD Architecture | 6 | ditto |
| | Project Management | Project Management | 6 | ditto |

However, there are some gaps between the understanding of Japanese expert and Saudi counterparts about the progress of preparation on some courses in Electrical field (PLC STEP7, Pneumatic & Electro-Pneumatic, PLC & Pneumatic, Power Electronics, Drive Technology and Automatic Control). The gap is caused by the absence of sufficient dialogue about the detailed contents and flow of the training courses between both sides. Training components, such as detailed items to be delivered in the course, order and schedule of them, textbooks or other materials used for each item, need to be identified under the sufficient discussion and full involvement by both of the counterparts and the expert.

Regarding the training course of Project Management in Construction field, the expert and the counterpart are in the final stage of preparing the contents of the training course.

(2) Number of teaching manuals/materials prepared under the Project

The materials shown below are prepared for the developed training courses.

■ Developed materials for each course

| Field | Subject | Training Course | Materials prepared |
|---|---|---|---|
| Electrical Technology | PLC | PLC Basic Function (LOGO) | The following 2 items prepared for each course;<br>・Textbook<br>・Booklet for presentation |
| | | PLC STEP7 | |
| | | Pneumatic & Elecro-Pneumatic | |
| | | PLC & Pneumatic | |
| | Power Electronics | Power Electronics (1) | |

| | | | |
|---|---|---|---|
| | | Power Electronics (2) | |
| | Drive Technology | Drive Technology | |
| | | Industrial Automation & Drive System | |
| | Automatic Control | Automatic Control (1)-(3) | |
| | Mechatronics | Mechatronics | |
| | (includes the above few subjects and not categorized in one of them) | Industrial Automation & Drive System | |
| Mechanical Technology | CAD | 3D CAD | The following 3 items prepared for each course;<br>・Textbook<br>・Booklet for presentation<br>・DVD |
| | CNC | CAM & CNC Milling | |
| | Forming Technology | Laser Cutting | |
| Construction Technology | 3D CAD | 3D CAD Revit | The following 3 items prepared for each course;<br>・Textbook<br>・Sample<br>・Video |
| | | 3D CAD AutoCAD Architecture | |
| | Project Management | Project Management | |
| | Architectural Technology | | |

In Electrical field, the same kind of gap mentioned in the above (1) also exists on the preparation of the materials. The lineup of the materials used in each training course must be clarified and shared one by one between the expert and the counterparts through the sufficient discussion from both sides.

3-2-3 Output 3: "The training systems for the college trainers are developed."

The output is on the process of being achieved though the progress is different depending on each field. Total 22 courses are conducted as of November 21, 2008. Some courses were conducted under the initiative of Saudi counterparts, but there were also some courses implemented mainly by Japanese experts.

(1) Mechanical field

Needs analysis and technical guidance for Saudi counterparts have been conducted by Japanese long-term experts as well as utilizing the outside resources such as technical training in other countries (Malaysia). Based on the experiences acquired through those activities, counterparts played a leading role as lecturer in all the training courses conducted so far (6 in total). The result of the implemented courses is as follows;

■ Training courses conducted in Mechanical field (as of Nov. 21)

| Subject | Training Course | Conducted Period | Number of participants | Lecturer |
|---|---|---|---|---|
| CAD | 3D CAD | Mar. 29, 2008 - Apr. 2, 2008 | 10 | CP |
| | | Sep.13, 2008 - Sep. 17, 2008 | 8 | CP |
| | | Nov. 1, 2008 - Nov. 5, 2008 | 8 | CP |
| CNC | CAM & CNC Milling | Jun. 28, 2008 - Jul. 2, 2008 | 7 | CP |
| Forming Technology | Laser Cutting | Dec. 8, 2007- Dec. 12, 2007 | 6 | CP |
| | | Oct. 25, 2008 - Oct 29, 2008 | 6 | CP |

(2) Electrical field

11 training courses below were conducted so far.

■ Training courses conducted in Electrical field (as of Nov. 21)

| Subject | Training Course | Conducted Period | Number of participants | Lecturer |
|---|---|---|---|---|
| PLC | PLC Basic (LOGO) | Aug. 25, 2007 - Aug. 29, 2007 | 8 | CP |
| | | Jun.7, 2008 - Jun. 11, 2008 | 8 | CP |
| Mechatronics | Mechatronics (FMS) | Sep. 1, 2007 - Sep. 5, 2007 | 9 | CP |
| | Mechatronics | Apr. 5, 2008 - Apr. 9, 2008 | 8 | CP |
| Power Electronics | Power Electronics (2) | May. 3, 2008 - May. 7, 2008 | 9 | Long-term Expert, CP |
| | Power Electronics (1) | Nov. 15, 2008 - Nov. 19, 2008 | 7 | Long-term Expert, CP |
| Automatic Control | Automatic Control (1) | Oct. 18, 2008- Oct. 22, 2008 | 9 | Long-term Expert, CP |
| | Automatic Control (2) | Oct. 25, 2008 - Oct 29, 2008 | 7 | Long-term Expert, CP |
| | Automatic Control (3) | Nov. 1, 2008 - Nov. 5, 2008 | 7 | Long-term Expert, CP |
| (includes the above few subjects and not categorized in one of them) | Industry Automation & Drive Technology | Mar. 9, 2007 - Mar. 15, 2007 | 17 | Short-term Expert |
| | | Nov. 3, 2007 - Nov. 7, 2007 | 15 | Short-term Expert |

As shown in the above, counterparts were the main lecturers in 4 training courses out of 11, while the other courses were conducted mainly by Japanese experts. Some training courses were postponed for the reason of "not being ready" to implement. Although the technical guidance to the counterparts have been provided through the daily activities with Japanese expert and the training in Indonesia (about FMS basic and advanced), there are some areas, such as Power Electronics, Drive Technology and Automatic Control, remain to be strengthened through more collaborative activities between the expert and the counterparts or the utilization of some additional outside resources, if necessary.

(3) Construction field

5 training courses below were conducted so far.

■ Training courses conducted in Construction field (as of Nov. 21)

| Subject | Training Course | Conducted Period | Number of participants | Lecturer |
|---|---|---|---|---|
| 3D CAD | 3D CAD AutoCAD Architecture | Nov. 3, 2007 - Nov. 7, 2007 | 5 | Short-term Expert |
| | | Nov. 8, 2008 - Nov. 12, 2008 | 6 | Long-term Expert, CP |

| | | | | |
|---|---|---|---|---|
| | 3D CAD Revit | May.17, 2008 - May. 21, 2008 | 6 | Long-term Expert, CP |
| | | Sep. 13, 2008 - Sep. 17, 2008 | 6 | Long-term Expert, CP |
| Project Management | Project Management | Mar. 29, 2008 - Apr. 2, 2008 | 13 | Short-term Expert |

Regarding 3D CAD, Saudi counterpart has been improving his capability to conduct training through daily work with Japanese expert, technical guidance from the short-term expert or the training in other countries (UAE and Indonesia), and self-learning with the materials purchased by the Project. Based on these experiences, the latest two training courses of 3D CAD were conducted under the active participation of the counterpart.

On the other hand, it is needed to strengthen the preparation for the course of Project Management, though one short-term expert was dispatched to conduct both of training to college trainers and technical guidance to the counterpart. To accelerate it, utilization of outside resources could be also considered.

3-2-4 Output 4: "The management systems of the DTC for training programs in the above mentioned fields are established."

The progress of the output has been achieved for some part, and it is needed to accelerate the activities within the remaining period of the Project.

Meeting to discuss about the progress of the training courses in the Project were held twice in February and May, 2008. The former was with the participation of the General Director of DTC, Project Manager, and 4 Japanese experts, while the latter was held as JCC with the participation of Vice Governor of TVTC, General Director of DTC, Project Manager, instructors (C/Ps) in target fields, 4 Japanese experts and JICA Office. Other than these, DTC also has its own management board which is held every month to share the issues regarding the management of DTC with the participation of the heads of the 6 departments.

Delay of sending course invitations and insufficient follow-up after sending them influenced the number of applications and selection of the appropriate participants, so that schedule of the training courses should be fixed much earlier as well as DTC management should give instructions to the staff concerned regarding this issue.

Regarding the equipment, any serious problems such as breakdowns have not been found at present. DTC has a system for equipment management including annual inventory and procedures for repairing or procurement of spare parts under the prescription by TVTC. The equipment introduced in the Project is also managed under this system, so their list should be clarified and registered in the database of DTC within the remaining period of the Project.

In addition to the above mentioned system of entire DTC, Mechanical field also clarified procedures for equipment maintenance within the department because some of their equipment (such as laser cutting machine) needs sufficient and careful maintenance. Instructors check the equipment along with the procedures before the every training course.

Regarding the safety operation, systematic management has not been conducted so far. In the Mechanical field, however, safety manuals were developed for laser-cutting machine and CNC machine.

3-3 Achievement of the Project Purpose: "Training capabilities of the instructors of Development and Training Center are improved in the above mentioned fields."

Capabilities of DTC instructors have been improved, so the Project Purpose is expected to be achieved to some extent by the end of the project. However, the situation is quite different depending on the fields and the subjects.

In Mechanical field, total 45 college trainers were trained so far and the evaluation results by the participants at the end of the training courses show a good result (average score of the evaluation exceeds 90%). DTC instructors have participated in the preparation and implementation of those courses actively as main lecturers. Japanese expert, Project Director and Project Manager regard the instructors' capabilities to conduct existing 3 training courses as sufficient as well as the self-evaluation by the instructors themselves. However, the self-evaluation shows there is some weakness on the planning and preparation stage of training, and experience in those aspects need to be accumulated as much as possible in the remaining period of the Project.

In Electrical field, total 104 college trainers were trained so far. 8 training courses out of 13 were conducted, and remaining 5 courses are scheduled to be implemented in the next 4 months before the end of the Project. The evaluations about the conducted training are different depending on the respective courses. The courses of PLC Basic Function, Mechatronics and Industry Automation & Drive Technology got relatively good evaluations with the score of more than 80% in average, while the evaluation of Power Electronics course was relatively low (58.62%). As mentioned in 3-2-1, the evaluation scores for the course was very different depending on the participants, the one of the reasons for the lower evaluation is inappropriate selection of the participants. The other reason is the capabilities of counterparts are still not sufficient. It is considered, therefore, that selection process of the applicants needs to be improved to avoid mismatch between participants' needs and the course contents, as well as improving the qualification of the counterparts.

Training capabilities of DTC instructors are regarded as being improved about the 8 conducted training courses, although the courses which the counterparts could conduct on their own were PLC Basic and Mechatronics only. On the other hand, those about the

remaining 5 courses need to be strengthened through accelerating the preparation of the training. Because there are some gaps between Japanese expert and Saudi counterparts about what is needed for preparation and implementation of those courses, so the detailed contents, schedule and materials used in those courses should be clarified and shared as soon as possible under the active discussion and participation from the both sides.

In Construction field, total 36 college trainers were trained so far. The evaluation results on those conducted courses can be regarded as good with the score of more than 85% in average. Instructor's participation in preparing and conducting the training courses has been active on 3D CAD, and the capabilities for the area is regarded sufficient according to the evaluation by Japanese expert, Project Director & Manager, and instructor himself. On the other hand, however, the training on Project Management was conducted only once by the Japanese short-term expert, and the level of instructor's capability for this area is not considered enough at present. The contents of the training has been finalized at present, and measures to be taken need to be considered based on it.

3-4 Prospects for Achievement of Overall Goal: "Knowledge and skills of the trainers of technical colleges are improved in the target field."

The number of the trainers who participated in the training courses in DTC has come up to 185 so far. In the questionnaire survey to the ex-participants, 13 trainers out of 17 answered that their knowledge and skills were improved. In the interview survey in the College of Technology in Jeddah, Damman, and Riyadh, 21 trainers out of 25 answered the training was useful for them. In the interview to the Heads of the target departments in those three colleges, all of them also answered the training as useful to enhance the knowledge and skills of the trainers as well as to improve the attitudes or training methods in some trainers. Based on those results, it is said that the DTC training courses help the college trainers to improve the knowledge and skills. Therefore, overall goal is expected to be achieved if the training courses will be continuously implemented after the Project.

On the other hand, because the training in DTC deal with relatively advanced or new technologies compared to the college curriculum, so the contents the trainers learned cannot be necessarily utilized in the existing classes directly right after the training. To enhance the direct effects by DTC training on the improvement of education in colleges, it is needed to strengthen the linkage of the DTC and curriculum development department in TVTC. Moreover, there were some requests from the trainers for DTC instructors to visit their colleges to see the actual situation including equipment and level of trainers as well as to conduct follow-up of the trainings. The educational situation in the colleges has constantly changed according to the labor market needs and

the technological innovation of the related fields, so the communication with the colleges including the instructors' visits needs to be strengthened to confirm and increase the effectiveness of the training.

3-5 Implementation Process of the Project

The progress of the Project has been recovering from the delay after the terminal evaluation conducted in February to March, 2007. The communication between Saudi side and Japanese side has been improved especially after the dispatch of the Chief Advisor / Project Coordinator since August, 2007, although some difficulties still remain for the smooth implementation of the Project as follows;

- Vacancy of the counterparts in some fields resulted in the heavy workload in the remained counterparts
- Insufficient discussion between Japanese experts and Saudi counterparts on the detailed plan and schedule of some training courses have generated gaps about the necessary inputs and preparations for the training, and it has lead to the postponement or delay of those training courses

4. Evaluation Results

4-1 Evaluation by Five Criteria

4-1-1 Relevance

The relevance of the Project is concluded as high for the following reasons;

(1) Consistency with the Policy of Saudi Government

Saudi government has been promoted Saudization, a policy replacing the foreign workers with Saudi nationals, as one of the top priorities of the development. The 8th Development Plan (2005-2009) stresses the need to increase the effectiveness of the agencies which provide Saudi labor with the necessary skills and strengthening their technical and occupational capabilities to meet the requirements of the labor market.

This Project aims to produce Saudi nationals, especially the youth, with skills to meet the needs of industries through strengthen the trainers of College of Technology. It has, therefore, obvious consistency with the policy and development strategy of Saudi Government.

(2) Appropriateness of target selection

The target of this Project is the trainers of College of Technology. The colleges play an important role in developing technical workers, and its number have been increasing rapidly with the rate of more than 2.6 times in last 7 years (12 in 2001 to 32 in 2008). The need to enhance the capacity of college trainers is also increasing with these situations, so the selection of the target of this Project is regarded as appropriate.

(3) Appropriateness of the approach

This Project takes an approach to strengthen DTC instructors, who bear the role to conduct training to college trainers, instead of directly providing college trainers with the technical assistance. Although the approach takes a certain time, it is considered appropriate from the viewpoint of sustainability and spread of cooperation effects.

(4) Consistency with Japan's cooperation policy to Saudi Arabia

As JICA's Cooperation Program for Saudi Arabia states that human resources development and promotion of Saudization is one of the prioritized areas, the Project is consistent with Japan's assistance policy.

4-1-2 Effectiveness

The effectiveness of the Project is concluded as fair for the following reasons;

(1) Achievement level of outputs

As described in the above 3-2, 19 kinds of the training courses have been developed in the three target fields, and total 22 times of the courses were conducted with 185 participants so far. The roles and involvement of the instructors in those training courses differs depending on the fields and subjects, and there are some courses which are conducted mainly by Japanese expert or has not been conducted so far. Regarding the management system in DTC, serious problems have not been found, though the safety operation needs to be implemented. For these situations, it is said that the outputs of the Project are being achieved in general, and most of the outputs are expected to be produced to satisfactory extent by the end of the cooperation period. However, there are some issues remained, at the same time, for the full achievement of Output 2-4 as mentioned the above.

(2) Achievement of the Project Purpose and contribution by the outputs for it

The evaluation by the participants, which is conducted at the end of each training course, shows good results with the average score of 87.2%, and the instructors' capabilities have been improved through the preparation and implementation of the trainings as a whole. However, the situation differs depending on the field and subject, and the capabilities on some subjects in Electrical and Construction fields are still not sufficient to conduct the training on their own. It is, therefore, expected to be achieved to some extent by the end of the Project period although some delays in Output 2-4 have influenced on the full achievement of Project Purpose.

4-1-3 Efficiency

The efficiency of the Project is concluded as relatively low for the following reasons;

(1) Timing of the inputs

Necessary inputs were not provided at the appropriate timing, such as delay in equipment procurement by both sides, in dispatch of long-term experts, in provision of appropriate working environment for the experts, and unstable assignment of C/Ps etc. Although it has been recovered during the extension period, those problems have led to the tight schedule of the training courses in later stages of the Project.

(2) Implementation process of the Project

Mutual discussions over the concrete training plan have not been sufficient in some subjects, and it caused some confusion or gap between Japanese experts and Saudi counterparts about necessary inputs and preparation for the training courses.

4-1-4 Impact

The impact of the Project is concluded as fair for the following reasons;

(1) Prospect for the Achievement of Overall Goal

The number of college trainers who participated in the training courses has come up to 185, 104 in Electrical, 45 in Mechanical, and 36 in Construction field. In the questionnaire survey and interviews to the ex-participants, most of the interviewees answered that the training was useful for improving their knowledge and skills. With these, it is said that the training courses in DTC has contributed to enhance the capacity of the college trainers. On the other hand, however, the actual effects on the quality of training in colleges are not clear at present, because the direct utilization of the training experiences is very limited for the contents of the training are mostly advanced or new compared to the college curriculum.

(2) Unexpected impact by the Project

Training in DTC have influenced on the revision of the college curriculum in two fields. 3D CAD, CAM & CNC Milling in Mechanical field and Mechatronics in Electrical field are going to be incorporated in the curriculum based on the training courses conducted under the Project.

4-1-5 Sustainability

The sustainability of the Project is concluded as fair for the following reasons;

(1) Policy and Institutional aspect

The sustainability in this aspect is considered high because Saudi government will continue the Saudization policy, and TVTC has a clear policy about expanding and strengthening Colleges of Technology.

(2) Organizational and Financial aspect

The sustainability in this aspect is considered relatively high because DTC has adequate budget for its operation and will be a part of Trainers' Training College (TTC) which is planned to open in September 2009. The DTC's function of providing in-service training to the college trainers will succeed to TTC. However, the number of the instructors is not necessarily sufficient to keep or expand the training.

(3) Technical aspect

The sustainability in this aspect has some challenges. Because the accumulation of the training experiences in C/Ps is not enough due to the delay of the Project implementation process, there are some subjects remained which C/Ps have difficulties to prepare and conduct training on their own. Especially, some C/Ps and experts pointed out that the assistance from outside would be needed when developing new curriculum and updating or revising them.

4-2 Conclusions of the Evaluation

The project has been recovering from the problems it had before, and has produced outputs although there still remain some difficulties especially in the accumulation of enough experiences in C/Ps. The trainings by DTC have a certain effects to the capacity of college trainers, and it is concluded that the Project would achieve the expected outcome to some extent by the end of the cooperation period.

5. Recommendations and Lessons Learned

5-1 Recommendations

5-1-1 Short-term (measures to be taken by the end of the Project)

(1) Regarding the training courses which have not been conducted so far, mutual discussion needed between Japanese expert and Saudi C/Ps about what is necessary for the implementation of the training courses based on the concrete training plans (which include the items to be delivered, order and schedule for them, textbooks & materials used for each item, and demarcation of C/Ps and expert in the training etc.), and measures identified necessary in the above process need to be implemented as soon as possible with a full involvement by C/Ps and experts.

(2) Measures to improve sending procedures for invitations should be discussed with a participation of the management staff, experts, CPs, and administration division in charge of the matter.

(3) Equipment list need to be provided to DTC from the Project to ensure their management after the end of Japanese cooperation.

(4) Safety management system such as safety patrol by DTC management staff should be implemented.

(5) JICA should issue certificate to C/Ps who completed the training courses as a main lecturer or an assistant with a certain level of evaluation.

(6) The training courses described in ANNEX (4) must be conducted as planned by the end of the Project under the full involvement of Saudi C/Ps and Japanese experts.

5-1-2 Long-term (measures expected to be taken by DTC after the completion of the Project)

(1) DTC's organizational linkage with the curriculum department of TVTC needs to be strengthened to ensure the effects by the DTC training on the classes at colleges.

(2) DTC's position and function in entire training system of Saudi Arabia need to be clarified to keep the qualified instructors, and formally authorized qualification as DTC instructor should be provided to them from DTC or TVTC.

(3) DTC should promote their instructors to acquire certificates/license authorized by the accredited outside resources.

(4) DTC should continue the assignment of the present instructors to utilize the experiences accumulated through the Project.

(5) Additional instructors need to be assigned when updating/developing new training curriculum, as well as the utilization of outside resources such as trainers of College of Technology.

(6) Opportunities for the instructors to visit colleges should be considered after the training to conduct follow-up and to grasp the actual situation in the field.

(7) Training courses with longer duration (more than a week) at the beginning of each school year or during summer vacation are expected to be conducted, for responding to the requests from the college trainers.

(8) Utilization of internet needs to be considered for smooth and efficient procedures of invitation and application of the participants.

(9) DTC should secure a sufficient budget to upgrade the software introduced by the Project.

5-2 Lessons Learned

(1) Experts Availability

There were some difficulties in recruit of the experts at the beginning, and it had influenced on the smooth and efficient progress of the Project. There are advantaged and disadvantaged fields for Japan to secure adequate human resources, so the selection of the target fields needs to be considered carefully not only based on the needs from partner countries but also based on the resources Japan has.

(2) Procurement of Equipment

When the budget for the equipment was not enough, the Project procured all the equipment partially instead of purchasing a few selected equipment with full-scale. Because the training cannot start without the completed equipment, this led to the huge delay of the schedule. Prioritization among the equipment should be clarified carefully under the situation with budget constraints.

(3) Detailed planning and its sharing

There happened some gap or misunderstanding about the needed inputs for the preparation of the training courses between the both sides in the Project. Because the mind-set is different from each country, the detailed planning and the persistent discussions to share the plan is very important for promoting common understanding of the essence of technical cooperation.

(4) Utilization of outside resources

The subjects in some fields were very broad, and outside resources within the country or in the third country were utilized in the Project. In case that one long-term expert could not cover all, to find and utilize these outside resources could be considered as alternative in terms of appropriate technology.

ANNEX

(1) Project Design Matrix (PDM) for evaluation

(2) Evaluation Grid (Achievements of the Project / Process of Project Implementation)

(3) Evaluation Grid (Evaluation by 5 Criteria)

(4) Schedule of the training courses in the remaining period of the Project

ANNEX (1)

# Project Design Matrix (PDM) Version No.3

Date of preparation: 15 November 2008

Country: The Kingdom of Saudi Arabia
Project title: The Development and Training Center Project
Cooperation period: September 1, 2004 to March 31, 2009
Executing agency: TVTC (Saudi side), JICA (Japanese side)
Project site: The Development & Training center (DTC), Riyadh

Target area: The Kingdom of Saudi Arabia
Target group: Instructors/ teachers of the colleges of technology in the field of Mechanical, Electrical and Construction technology.
Preparation method: Prepared by Project team without PCM workshop, based on survey results and the master plan.

| Narrative Summary | Objectively Verifiable Indicators | Means of Verification | Important Assumptions |
|---|---|---|---|
| **SUPER GOAL**<br>Technical colleges in the Kingdom can produce trainees who are equipped with the required technical level of industries in the fields of mechanical, electrical and construction technologies. | 1. Number of graduates employed in the relevant fields of industries<br>2. Number of student who pass the examination of occupational<br>3. Reputation of the college graduate's technical skill in industry | 1. Documents of the Collages of Technologies<br>2. Documents of TVTC<br>3. Survey reports of TVTC | |
| **OVERALL GOAL**<br>Knowledge and skills of the trainers of technical colleges are improved in the target fields. | 1. Participation rate in the training in DTC training among college trainers (Number of trainers trained / Number of potential candidates)<br>2. Evaluation by the trained trainers on their knowledge and skills after the training<br>3. Evaluation of trained trainers by the head of department in college | 1. Implementation reports of the training courses<br>2. Suvey on the self-evaluation by trained trainers regarding techonological skill<br>3. Survey on the evaluation of trained trainers by the relevant head of department | a. Demand of employment is not negatively affected by the condition of the economy of Saudi Arabia. |
| **PROJECT PURPOSE**<br>Training capabilities of the instructors of DTC are improved in the above mentioned fields. | 1. Evaluation of relevant instructors' capabilities by experts, the Project Director & Manager and Instructors themselves<br>2. Instructors' involvement to the preparation and implementation of the training courses<br>3. Evaluation score of the training courses by the participants at the end of the courses<br>4. Number of college trainers trained by the Project | 1. Questionnair on the evaluation of the instructors<br>2. Questionnair on the instructors' involvement to training implementaion<br>3. Evaluation reports of training courses<br>4. Implemetation reports of the training courses | a. Relevant fields of industries employ graduates of the Collages of Technologies.<br>b. Colleges of technology make use of skill obtained in theDTC training courses<br>c. TVTC continues its policy to strengthen the DTC |
| **OUTPUT**<br>1. The needs on the trainer training for the college trainers in the target fields are identified. | 1-1. Required technical skills and level based on new college curriculum is identified.<br>1-2. Required technical skills and level for trainer training is identified.<br>1-3. Technical skills and level required for the graduates at industry is identified. | 1-1. Survey reports of the Project<br>1-2-1. Survey reports of the Project<br>1-2-2. Monitoring report on trainer's evaluation of TVTC<br>1-3. Survey reports of the Project | a. Colleges of Technologies continue send their teachers to training courses at the DTC<br>b. Financial support to the DTC are appropriately secured by TVTC. |
| 2. The training programs for the college trainers are developed. | 2-1. Number of training courses prepared by the Project.<br>2-2. Number of teaching manuals/materials prepared under the project | 2-1. Documents of the D&T center<br>2-2. Report of the D&T center | |
| 3. The training systems for the college trainers are developed. | 3-1. Needs analysis of the DTC instructors<br>3-2. Technical guidance offered to the DTC instructors<br>3-3. Number of courses implemented in DTC under the Project<br>3-4. Evaluation results (number of evaluation conducted) of training courses | 3-1. Report of the Project<br>3-2. Report of the project (Monitoring Sheet for Technology Transfer)<br>3-3. Documents of the DTC<br>3-4. Documents of the DTC | |

ANNEX (1)

| Narrative Summary | Objectively Verifiable Indicators | Means of Verification | Important Assumptions |
|---|---|---|---|
| 4. The management systems of the DTC for training programs in the above mentioned fields are established. | 4-1. Number of meeting held for management board of DTC<br>4-2. Number of meeting of equipment management committee<br>4-3. Condition of equipment/tools for training.<br>4-4. Number of meeting of safety operation committee | 4-1. Documents of the DTC<br>4-2. Record of meeting<br>4-3. Equipment record<br>4-4. Record of meeting | |
| **ACTIVITIES**<br>**1. Identifying training needs**<br>1-1. To scrutinize and analyze the curriculums of the technical colleges in the above mentioned fields.<br>1-2. To survey and analyze the technical level of the college trainers.<br>1-3. To survey the technical skills and level required in the industries.<br>**2. Developing training program**<br>2-1. To draw up the training programs for the colleges trainers based on their current skills.<br>2-2. To draw up the training programs for the DTC instructors.<br>2-3. To develop training materials for the training of college trainers.<br>**3. Implementing training on C/P and trainer training**<br>3-1. To implement the technical training to the DTC instructors in the field of mechanical, electrical and construction technologies.<br>3-2. To implement the technical training to the college trainers by the DTC instructors with support of Japanese experts .<br>3-3. To evaluate training courses for the college trainers and reflect the result of evaluation into the forthcoming training programs.<br>**4. Improvement on management of DTC**<br>4-1. To organize the management board<br>4-2. To establish an equipment management committee.<br>4-3. To make an inventory of equipment, materials and expendables<br>4-4. To establish a monitoring system on the condition of equipment and expendables.<br>4-5. To organize and run a safe operation committee in the Mechcanical Technology. | **INPUT**<br>**Saudi Arabian side**<br>1. Personnel Assignment<br>1) Counterparts (C/Ps)<br>*Project director: 1<br>*Project manager: 1<br>*Technical Counterparts: 15<br>2. Building and facilities<br>1) Headquarter/Work shop of the DTC including office space for Japanese Experts.<br>2) Existing equipment of the DTC and the Colleges of Technologies<br>3) Transportation vehicles<br>4) Office equipment for the project office<br>3. Allocation of budget<br>1) Operational cost of the DTC<br>2) Project implementation cost<br>3) Operational cost of the project office<br>4) Travel allowance of C/Ps<br>5) Custom clearance/transport/ installation of equipment<br>6) Maintenance cost of equipment<br>7) Electricity, Water<br>8) Training expense of the college teachers<br>4. Provision of equipment<br>1) Office equipment<br>2) Training equipment | **Japanese side**<br>1. Dispatch of Japanese Experts<br>1) Long-term experts<br>Mechanical technology<br>Electrical technology<br>Construction technology<br>Chief Advisor / Project Coordinator<br>2) Short-term experts<br>2. Counterpart Training in Japan<br>3. Allocation of budget<br>* Allowance of Japanese experts<br>* Expenses of counterpart training in Japan<br>4. Provision of equipment | a. Counterparts remain in the DTC<br>**Preconditions**<br>a. DTC allocates qualified counterparts who have sufficient English ability.<br>b. Financial resources are appropriately secured. |

# ANNEX (2)

Evaluation Grid
The Development and Training Center Project

## I Verification of Project Performance and Implementation Process

### 1. INPUT (compare with plan)

<table>
<tr><th>Items</th><th>Planned Inputs<br>(according toR/D and PDM)</th><th>Findings (Actual Input)</th></tr>
<tr><td colspan="3">1) Japanese Side</td></tr>
<tr><td>Dispatch of Long-term experts</td><td>a. Electrical Technology:<br>b. Mechanical Technology:<br>c. Construction Technology:<br>d. Project Coordinator:<br>d. Chief Adivisor / Project Coordinator:</td><td>Mar. 2007-Aug. 2007 / Sept. 2007-Mar.2009<br>Tsuchiya: (Mar. 01, 07-Aug. 31, 07) 6.0M/M (Sep.01, 07-Mar. 31, 09) 19M/M<br>Sawada: (Aug. 14,07-Aug. 31,07) 0.5M/M (Sep.01, 07-Mar. 31, 09) 19M/M<br>Ishii: (Mar.01, 07-Aug. 31,07) 6.0M/M (Sep.01, 07-Mar. 31, 09) 19M/M<br>Takahashi Mar. 01, 07-Aug. 31, 07) 6.0M/M<br>Ishigaki: (Aug. 23, 07-Aug. 31, 07) 0.3M/M (Sep.01, 07-Mar. 31, 09) 19M/M<br>Total 5 experts: 94.8M/M</td></tr>
<tr><td>Dispatch of Short-term experts</td><td colspan="2">(March 2007-Nov. 2008)<br>Total: 5 experts, 6M/M, Elect: 1 expert, Mech.: 2 expert, Const. 2 experts</td></tr>
<tr><td>Provision of Equipment</td><td colspan="2"><table><tr><td>Period</td><td>Mar. 2007-Nov. 2008</td></tr><tr><td>Amount (1,000 JPY)</td><td>26,619</td></tr><tr><td>Main equipment</td><td>Elect.: PLC learning system, Automatic control learnig system, Power electronics learning system<br>Mech.: CAD/ CAM software, process tool & materials<br>Const.: CAD software</td></tr></table></td></tr>
<tr><td>Counterpart training outside Saudi Arabia</td><td colspan="2"><table><tr><td>Period</td><td>Mar. 2007-Aug. 2007</td><td>Sep. 2007-Nov. 2008</td></tr><tr><td>Elect.</td><td>07/2/7-07/3/7, Indonesia<br>4 x 1M</td><td>07/12/28-08/2/6, Indonesia<br>3 x 1.3M</td></tr><tr><td>Mech.</td><td></td><td>08/7/7-08/8/5, Malaysia<br>3 x 1M</td></tr><tr><td>Const.</td><td></td><td>07/10/23-07/11/29, UAE<br>2 x 0.2M<br>08/10/17-08/11/02, Indonesia<br>1 X 0.5M</td></tr></table></td></tr>
<tr><td>Operating expenses</td><td colspan="2"><table><tr><td>JFY</td><td>2007</td><td>as of Nov. 2008</td></tr><tr><td>Budget for project activity</td><td>-</td><td>3,138</td></tr><tr><td>Miscellaneous</td><td>6,121</td><td>3,200</td></tr><tr><td>Total</td><td>6,121</td><td>6,338</td></tr></table>(1,000 JPY)</td></tr>
</table>

Note: Elect.: Electrical Technology, Mech.: Mechanical Technology, Const.: Construction Technology

# ANNEX (2)

Evaluation Grid
The Development and Training Center Project

<table>
<tr><th>Items</th><th>Planned Inputs<br>(according toR/D and PDM)</th><th>Findings (Actual Input)</th></tr>
<tr><td colspan="3">2) Saudi Side</td></tr>
<tr><td rowspan="3">Assignments of counterpart personnel</td><td>Project Director 1</td><td>Dr. Ibraheem Al Shafi since the start of the Project</td></tr>
<tr><td>Project Manager 1</td><td>Mr. Yasser Al-Humaid since the start of the Project</td></tr>
<tr><td>Technical Counterpart</td><td>8 Counterparts (Elect. 4, Mech. 3, Const. 1) as of November 26, 2008</td></tr>
<tr><td rowspan="3">Building and facilities</td><td>1) Headquarter/Workshop of the D&T Center including office space for Japanese experts</td><td>Provided, except following;<br>1) Office space for expert on mechanical technology<br>2) Training room for CAD/CAM of Mechnanical Technology</td></tr>
<tr><td>2) Transportation vehicles</td><td>4 cars are provided for Japanese experts.</td></tr>
<tr><td>3) Office equipment for the project office</td><td>Provided.</td></tr>
<tr><td>Allocation of budget</td><td>1) Operational cost of the D&T Center<br>2) Project implementation cost<br>3) Operational cost of the project office<br>4) Travel allowance of C/Ps<br>5) Custom clearance cost of equipment<br>6) Maintenance cost of equipment<br>7) Electricity, water<br>8) Training expense of the college trainers</td><td>
<table>
<tr><th>Saudi Arabian Fiscal Ye</th><th>2007</th><th>2008</th><th>Total</th></tr>
<tr><td>Manpower cost</td><td>1,300</td><td>1,300</td><td>2,600</td></tr>
<tr><td>Operational expense</td><td>50</td><td>50</td><td>100</td></tr>
<tr><td>Provision of equipment</td><td>–</td><td>–</td><td>–</td></tr>
<tr><td>Repaire cost</td><td>700</td><td>–</td><td>700</td></tr>
<tr><td>Total</td><td>2,050</td><td>1,350</td><td>3,400</td></tr>
</table>
(approximatrly, in SR1,000)
</td></tr>
<tr><td>Provision of equipment</td><td>1) Office equipment<br>2) Training equipment</td><td>Computers were purchased with SR500,000.<br>Provided except 3 server computers which is on order.</td></tr>
</table>

Note: Elect.: Electrical Technology, Mech.: Mechanical Technology, Const.: Construction Technology

Evaluation Grid
The Development and Training Center Project

2. OUTPUT (compare with target)

| Evaluation Item | Detail of Evaluation | | Findings |
|---|---|---|---|
| Output | 1. The needs on the trainer training for the college trainers in the target fields are identified. | (1) Has it been identified required technical skills and level based on new curriculum in the field of electric, mechanic and construction?<br>(2) Has it been identified required technical skills and level for trainer training ? | ■ The terminal evaluation conducted in March 7, 2007 concluded the identification of required technical skills and level was achieved.<br>■ Application ratio (number of applicant/number of participant) to participate in the training courses is as follows. These figures show high need for the training courses.<br>Total: 161%, Elec.: 183%, Mech.: 145%, Const.: 119%<br>■ Participants have highly evaluated their participated training courses according to their requirement. Following figure is weighted ratio of answer from participants such as "Very good"(100%), "Good"(80%) .<br>Total: 86% , Elec.: 76%, Mech.: 94%, Const.: 92% |
| | | (3) Has it been identified technical skills and level required for the graduates at the industry? | ■ The technical level required by industry is designed in accordance with NOSS and the curriculum of the technical college is prepared based on the NOSS. |
| | 2. The training programs for the college trainers are developed. | (1) Have the training courses for the college trainers been developed?<br>(2) Have the training materials been developed for the training of college trainers? | ■ Number of developed training course is totally 19 (Elec.: 13, Mech.: 3, cost.: 3). Each courses has training materials such as text, booklet for presentation, and DVD/CD-ROM. The detail is as Attachment 1.<br>■ There is some gap between the expert and couterparts in understanding about the preparation progress of three courses (PLC STEP7, Pneumatic & Electro-Pneumatic, PLC & Oneumatic in Electric Technology) |
| | 3. The training systems for the college trainers are developed. | (1) Have the training needs of DTC instructors analyzed ?<br>(2) Has the technical guidance offered to DTC instructors in the three fields?<br>(3) Have the training courses implemented for the college trainers in DTC? | ■ In the three fields, Japanese experts have implemented the technical training for DTC's instructors through daily on-the-job training such as operation of equipment, revision of texts and conducting lecture on the training courses. Total 21 training courses have been conducted as of November 2008, participated by 168 trainers. Counterparts conducted 10 training course as a main lecturer. The detail is as Attachment 2.<br>a. Electrical Technology<br>Total 104 of college trainers were trained so far. 8 training courses out of 13 were conducted, and remaining 5 courses are scheduled to be implemented in the next 4 months before the end of the Project. The evaluations about the conducted training are different depending on the respective courses. The courses of PLC Basic Function, Mechatronics and Industry Automation & Drive Technology got relatively good evaluations with the score of more than 80% in average, while the evaluation of Power Electronics course was relatively low (58.62%). As mentioned in 3-2-1, the evaluation scores for the course was very different depending on the participants, the one of the reasons for the lower evaluation is inappropriate selection of the participants. The other reason is the capabilities of counterparts are still not sufficient. It is considered, therefore, that selection process of the applicants needs to be improved to avoid mismatch between participants' needs and the course contents, as well as improving the qualification of the counterparts.<br>Training capabilities of DTC instructors are regarded as being improved about |

| | | |
|---|---|---|
| | | the 8 conducted training courses, although the courses which the counterparts could conduct on their own were PLC Basic and Mechatronics only. On the other hand, those about the remaining 5 courses need to be strengthened through accelerating the preparation of the training. Because there are some gaps between Japanese expert and Saudi counterparts about what is needed for preparation and implementation of those courses, so the detailed contents, schedule and materials used in those courses should be clarified and shared as soon as possible under the active discussion and participation from the both sides.<br><br>b. Mechanical Technology<br>Total 45 of college trainers were trained so far and the evaluation results by the participants at the end of the training courses show a good result (average score of the evaluation exceeds 90%). DTC instructors have participated in the preparation and implementation of those courses actively as main lecturers. Japanese expert, Project Director and Project Manager regard the instructors' capabilities to conduct existing 3 training courses as sufficient as well as the self-evaluation of the instructors themselves. However, the self-evaluation shows there is some weakness on the planning and preparation stage of training, and experience in those aspects need to be accumulated as much as possible in the remaining period of the Project.<br><br>c. Construction Technology<br>Total 36 of college trainers were trained so far. The evaluation results on those conducted courses can be regarded as good with the score of more than 85% in average. Instructor' s participation in preparing and conducting the training courses has been active on 3D CAD, and the capabilities for the area is regarded sufficient according to the evaluation of Japanese expert, Project Director & Manager, and instructor himself. On the other hand, however, the training on Project Management was conducted only once by the Japanese short-term expert, and the level of instructor' s capability for this area is not considered enough at present. Because the contents of the training has been finalized at present, and measures to be taken need to be considered based on it. |
| | (4) Has the evaluation of the training courses conducted ? Have the courses been revised based on the result of the evaluation / Has the result of evaluation had an effect on the forthcoming training courses? | ■ Questionnaire to evaluate the training course was developed and the evaluation by each participant has been conducted at the end of the trainig course. Based on the result of the evaluation and problems counterparts and theexpert found during the training course, the training course including text and educational materials have been revised |

| | | |
|---|---|---|
| 4. The management systems of the DTC for training programs in the above mentioned fields are established. | (1) Has the meeting for the management board been held?<br>(2) Has the equipment management committee been established and<br>(3) Has an invetory of equipment, materials and consumable supply been made?.<br>(4) Are the equipment/tools for training in good condition?<br>(5) Has a monitoring system on the condition of equipment and consumable supply been established? | ■ Regular management board for the training program has not been held, though once a temporary meeting like a management board convened in Feburary 2008, with the participation of General Director of DTC, Project Manager and four Japaneses experts. In May 2008, Joint Coordintion Committee was held with the participation of above mentioned members adding to 8 counterparts.<br>■ Regarding the equipment, any serious problems such as breakdowns have not been found at present. DTC has a system for equipment management including annual inventory and procedures for repairing or procurement of spare parts under the prescription by TVTC. The equipment introduced in the Project is also managed under the system, so their list should be clarified and registered in the database of DTC within the remaining period of the Project. Thus as equipment management committee it has not been held.<br>■ In addition to the above mentioned system of entire DTC, Mechanical field also clarified a procedure for equipment maintenance within the department because some of their equipment (such as laser cutting machine) needs sufficient and careful maintenance. Instructors check the equipment along with the procedure before the start of every training course.<br>■ An inventory of equipment is made once a year under the rule of DTC's equipment management system. Materials and consumable supply are checked after implementation of the training course.<br>■ The equipment/tools for training have been under good condtion so far.<br>■ Before and after implementation of the training, equipment and expendable are checked. However, monitoring system on their condition is not established yet. |
| | (6) Has the safety operation committee been organized and held in Mechanical Technology field? | ■ Safety manuals for Laser-cutting machine and CNC machine were developed in Mechanical field. The safety operation committee has not been held yet though DTC has a rule of safe operation manual. |
| 5. Important assumptions | (1) Do counterparts remain in DTC? | ■ Except in Construction Technology, counterparts have remained in DTC. In Construction Technology, in 2008, a counterpart was allocated in January but he also leaved in July. Then only one counterpart remains in Construction Technology. |
| | (2) Do Colleges of Technology continue to send those trainers to training courses at DTC? | ■ Though lack of preparation constrained number of participants at the beginning, its number is expected to increase. And all of 8 heads of departments in three techincal colleges interviewed by project consultation team answered that they would dispatch their trainers to the traing courses in DTC. |

| JFY | | 2007 | 2008* | Total |
|---|---|---|---|---|
| Elec. | No. of the training | 4 | 7 | 1 |
| | No. of participants | 49 | 55 | 104 |
| Mech. | No. of the training | 2 | 4 | 6 |
| | No. of participants | 16 | 29 | 45 |
| Const. | No. of the training | 2 | 3 | 5 |
| | No. of participants | 18 | 18 | 36 |
| Total | No. of the training | 7 | 14 | 21 |
| | No. of participants | 66 | 102 | 185 |

*until November 21

| | | | |
|---|---|---|---|
| | | (3) Is financial support to DTC appropriately secured by TVTC? | ■ Because the number of technical colleges is expected to increase along with Saudization policy, finacial support to DTC must be secured. |
| | 6. Preconditions | (1) Has DTC been allocating qualified counterparts who have sufficient English ability? | ■ In the Electric Technology and Mechanical Technology, several counterparts have insufficient English abilities. However their colleages are helping them in communication with the Japanese expert. |
| | | (2) Are financial resources appropriately secured? | ■ The Project has appropriately secured resources from DTC. |
| Project Purpose | Training capabilities of the instructors of DTC are improved in the above mentioned fields. | (1) Are training capabilities of the instructors of DTC improved in the above mentioned fields? | ■ Capabilities of DTC instructors have been improved, so the Project Purpose is expected to be achieved to some extent by the end of the project. However, the situation is quite different depending on the fields and the subjects.<br><br>a. Electrical Technology<br>Total 104 of college trainers were trained so far. 8 training courses out of 13 were conducted, and remaining 6 courses are scheduled to be implemented within the next 4 months before the end of the Project. The evaluations about the conducted training are different depending on the respective courses. The courses of PLC Basic Function, Mechatronics and Industry Automation & Drive Technology got relatively good evaluations with the score of more than 80% in average, while the evaluation of Power Electronics course was relatively low (58.6%). As mentioned in 3-2-1, the evaluation scores for the course was very different depending on the participants, the main reason for the lower evaluation is inappropriate selection of the participants. It is considered, therefore, that selection process of the applicants needs to be improved to avoid mismatch between participants' needs and the course contents.<br>Training capabilities of DTC instructors are regarded mostly sufficient about the 7 conducted courses. On the other hand, those about the remaining X courses need to be strengthened through accelerating the preparation of the training. Because t<br><br>b. Mechanical Technology<br>Total 45 of college trainers were trained so far and the evaluation results by the participants at the end of the training courses show a good result (average score of the evaluation is 94%). DTC instructors have participated in the preparation and implementation of those courses actively as main lecturers. Japanese expert, Project Director and Project Manager regard the instructors' capabilities to conduct existing 3 training courses as sufficient as well as the self-evaluation of the instructors themselves. However, the self-evaluation shows there is some weakness on the planning and preparation stage of training, and experience in those aspects needs to be accumulated as much as possible in the remaining period of the Project. |

<table>
<tr><td></td><td></td><td></td><td>c. Construction Technology<br>Total 36 of college trainers were trained so far. The evaluation results on those conducted courses can be regarded as good with the score of more than 85% in average. DTC instructor's participation in preparing and conducting the training courses has been active on 3D CAD, and the capabilities for the area are regarded sufficient according to the evaluation of Japanese expert, Project Director & Manager, and instructor himself. On the other hand, however, the training on Project Management was conducted only once by the Japanese short-term expert, and the level of instructor's capability for this area is not considered sufficient at present. Because the contents of the training have not been clear for this subject, the components should be clarified first under the discussion between Japanese expert and the Saudi counterpart, and measures to be taken need to be considered based on it.</td></tr>
<tr><td rowspan="3">Overall Goal</td><td rowspan="3">Knowledge and skills of the trainers of technical colleges are improved in the target fields.</td><td>(1) Participation rate in the training in DTC (Number of trainers trained / Number of potential candidates)</td><td>■ Participation rate in the training course is more than 30% in three fields.<br><table><tr><td></td><td>Elec.</td><td>Mech.</td><td>Const.</td><td>Total</td></tr><tr><td>No. of potential candidates*</td><td>292</td><td>122</td><td>134</td><td>548</td></tr><tr><td>No. of participants in the traing course**</td><td>104</td><td>45</td><td>36</td><td>185</td></tr><tr><td>Participation rate (%)</td><td>35.6</td><td>36.9</td><td>26.9</td><td>33.8</td></tr></table>*Estimated by JICA consultation team *until Nov. 2008</td></tr>
<tr><td>(2) Evaluation score by trained trainers on their knowledge and skills.</td><td>■ 76% of participants answered that the training courses were useful to update their knowledge and skills. This is especially remarkable in computer-using technologies such as 3D CAD and CAM.</td></tr>
<tr><td>(3) Evaluation of trained trainers by the head of department.</td><td>■ All of 9 heads of departments of three colleges evaluated trained trainers had improved their training skills and their attitude.</td></tr>
<tr><td rowspan="3">Process of the Implementation</td><td colspan="2">1. What is cause of delay and difference in the achivement and process of activities?</td><td>■ The difference between the project plan and the achievement is caused mainly from delay in procurement of equipment by both sides, and partially from delay in Japanese expert's arrival, vancancyl in allocated number of counterparts and lack of English abilities in several instructors.</td></tr>
<tr><td colspan="2">2. How was management system of the project running?<br>3. How was system for monitoring running?<br>4. How was system for communication running in the project?</td><td>■ The progress of the Project has been recovering from the delay after the terminal evaluation conducted in February to March, 2007. The communication between Saudi side and Japanese side has been improved especially after the dispatch of the Chief Advisor / Project Coordinator since August, 2007, although some difficulties still remain for the smooth implementation of the Project as follows;<br>・ Vacancy of the counterparts in Construction field resulted in the heavy workload in the remained counterpart<br>・ Insufficient discussion between Japanese experts and Saudi counterparts on the detailed plan and schedule of some training courses has generated gaps about the necessary inputs and preparations for the training, and it leads to the postponement or delay of those training courses</td></tr>
<tr><td colspan="2">5. Is recongnition and imvolvement in the Project by DTC and counterparts sufficient?</td><td>■ Recongnition and imvolvement in the Project was not sufficient regarding several training courses in Electronic Technology and Construction Technology.</td></tr>
</table>

Attachment 1

| Field | Subject | Training course | Capacity | Educational Material* | in charge | |
|---|---|---|---|---|---|---|
| | | | | | Main | Sub |
| Electrical Technology | PLC | PLC Basic Function (LOGO) | 5–10 | TE, B | Abdulrahman Al-Ghamdi | Saleh Al-Dahriy |
| | | PLC STEP 7 | 5–10 | TE, B | Abdulrahman Al-Ghamdi | Saleh Al-Dahriy |
| | | Pneumatic& Electro-Pneumatic | 4–8 | TE, B | Saud Al-Oraini | Ahmed Al-Zaharani |
| | | PLC & Pneumatic | 4–8 | TE, B | Ahmed Al-Zaharani | Saud Al-Oraini |
| | | Mechatronics 1 | 5–10 | TE, B | Ahmed Al-Zaharani | Saud Al-Oraini |
| | | Mechatronics 2 | 5–10 | TE, B | Ahmed Al-Zaharani | Saud Al-Oraini |
| | Power Electronics | Power Electronics 1 | 5–10 | TE, B | Saleh Al-Dahriy | Abdulrahman Al-Ghamdi |
| | | Power Electronics 2 | 5–10 | TE, B | Saleh Al-Dahriy | Abdulrahman Al-Ghamdi |
| | Drive Technology | Drive Technology | 4–8 | TE, B | Saleh Al-Dahriy | Abdulrahman Al-Ghamdi |
| | | Automatic Control 1 | 4–8 | TE, B | Saleh Al-Dahriy | Abdulrahman Al-Ghamdi |
| | | Automatic Control 2 | 4–8 | TE, B | Saleh Al-Dahriy | Abdulrahman Al-Ghamdi |
| | | Automatic Control 3 | 4–8 | TE, B | Saleh Al-Dahriy | Abdulrahman Al-Ghamdi |
| | | Industrial Automation & Drive System | 10–20 | TE, B | | |
| Mechanical Technology | CAD | 3D CAD | 8 | TE, B | Saudi Al-Awwad | Khalid Al-Romaizan |
| | CNC | CAM & CNC Milling | 8 | TE, B, V | Saudi Al-Awwad | Khalid Al-Romaizan |
| | Forming Tecnology | Laser Cutting | 6 | TE, B, V | Saudi Al-Awwad | Khalid Al-Khrashi |
| Construction Technology | 3D CAD | 3D CAD Revit | 6 | TE, S, V, O | Ahmed Al-Fouzan | |
| | | 3D CAD AutoCAD Architecture | 6 | TE, S, V, O | Ahmed Al-Fouzan | |
| | Project Management | Project Management | 6–12 | TE, S, V, O | Ahmed Al-Fouzan | |
| | Architectral Tec. | | | | | |

Above mentioned training course has 5 days period.

*TE: Text in English
TA: Texr in Arabic
B: Booklet for presentation
V: Video
P: Practice equipment
S: Sample
O: Others

Attachment 2

| Field | Training course | Excution date | Main lecturer | No.of Participant |
|---|---|---|---|---|
| Electrical Technology | Industry Automation & Drive System | Mar. 9, 2007–Mar. 15, 2007 | Noboru Morita* | 17 |
| | PLC Basic (LOGO!) | Aug. 25, 2007–Aug. 29, 2007 | Abdulrahman Al-Ghamdi | 8 |
| | Mechatronics (FMS) | Sep. 1, 2007–Sep. 5, 2007 | Ahmed Al-Zaharani | 9 |
| | Industry Automation & Drive System | Nov. 3, 2007–Nov. 7, 2007 | Noboru Morita* | 15 |
| | Mechatronics | Apr. 5, 2008–Apr. 9, 2008 | Ahmed Al-Zahrani | 8 |
| | Power Electronics (2) | May 3, 2008–May 7, 2008 | Takashi Tsuchiya | 9 |
| | PLC Basic (LOGO!) | Jun. 7, 2008–Jun. 11, 2008 | Abdulrahman Al-Ghamdi | 8 |
| | Automatic Control (1) | Oct. 18, 2008–Oct. 22, 2008 | Takashi Tsuchiya | 9 |
| | Automatic Control (2) | Oct. 25, 2008–Oct. 29, 2008 | Takashi Tsuchiya | 7 |
| | Automatic Control (3) | Nov. 1, 2008–Nov. 5, 2008 | Takashi Tsuchiya | 7 |
| | Power Electronics (1) | Nov. 15, 2008–Nov. 19, 2008 | Takashi Tsuchiya | 7 |
| | (Sub total) | 11 | | 104 |
| Mechanical Technology | Laser Cutting | Dec. 8, 2007–Dec. 12, 2007 | Saudi Al-Awwad | 6 |
| | 3D CAD | Mar. 29, 2008–Apr. 2, 2008 | Saudi Al-Awwad | 10 |
| | CAM & CNC Milling | Jun. 28, 2008–Jul. 2, 2008 | Saudi Al-Awwad | 7 |
| | 3D CAD | Sep. 13, 2008–Sep. 17, 2008 | Saudi Al-Awwad | 8 |
| | Laser Cutting | Oct. 25, 2008–Oct. 29, 2008 | Saudi Al-Awwad | 6 |
| | 3D CAD | Nov. 1, 2008–Nov. 5, 2008 | Saudi Al-Awwad | 8 |
| | (Sub total) | 6 | | 45 |
| Construction Technology | 3D CAD AutoCAD-Architecture | Nov. 3, 2007–Nov. 7, 2007 | Honma* | 5 |
| | Project Management | Mar. 29,2008–Apr. 2, 2008 | Okubo* | 13 |
| | 3D CAD Revit | May 17, 2008–May 21, 2008 | Yoshitaka Ishi | 6 |
| | 3D CAD Revit | Sep. 13, 2008–Sep. 17, 2008 | Yoshitaka Ishi | 6 |
| | 3D CAD AutoCAD Architecture | Nov. 8, 2008–Nov. 12, 2008 | Yoshitaka Ishi | 6 |
| | (Sub total) | 5 | | 36 |
| Total | | 21 | | 185 |

Above mentioned performance is until Nov. 12, 2008

# ANNEX (3)

Evaluation by 5 Criteria

| 5 Criteria | Questions for evaluation | | Findings |
|---|---|---|---|
| | Major questions | Minor questions | |
| Relevance | 1. Do the project purpose and the overall goal fit together the development policy of Saudi Arabia? | (1) Is the project consistent with the eighth development policy of Saudi Arabia? | According to the 8th Development Plan (2005–2009), Saudi Government puts the highest priority on Saudization and intends to promote education and engineering training for young people. Then the policy to strengthen the Colleges of Technology is putting a high priority on as an important part of the Plan. |
| | 2. Is the approach of the project consistent with overall goal? | (1) Adequency of producing engineers through Colleges of Technologiy | Because number of technical colleges continue to increse, the approach to enhance capabilities of college trainers is consistent with overall goal. |
| | | (2) Adequency of the approach which intends to enhance capabilities of trainers through training courses | Many technologies such as drawing and processsing of material are equiped with computer and have been innovarted rapidly. The instructors of technical colleges need to update their technological knowledge and skills. Under the sitiation, the approach which intends to enhance capabilities of college trainers through traing courses has contributed in a positive manner to update their technical knowledge and skills. |
| | | (3) Adequency of the approach which intends to enhance capabilities of instructors to train college trainers | It is necessary for college trainers to update technical knowledge and skill. For this purpose, continuous education and training for the trainers is vital. And instructors who conduct the training courses are essential to sustain producing trainers equiped with high technical knowledge and skills. This project intends to build foundation to enchance capabilities of instructors |
| | 3. Is the project consistent with JICA coorporation program by country for Saudi Arabia? | (1) Consistency with JICA Imelementation Plan by Country | Human resources development and promotion of Saudization policy are put a priority in JICA's aid policy for the Kingdom of Saudi Arabia, the Project is consistemt with JICA's aid policy. |
| Effectiveness | 1. Have DTC instructor's capabilities been improved to implement training for college trainers? | (1) Do the instructors grasp training needs adequately and develop traning courses? | Though it is different from each field, in general, capabilities of instructors were improved by the Project. The instructors can prepare and conduct the training course partially or completely. However, there is certain difficulty in development of new traing courses. |
| | | (2) Do the instructors conduct training courses adequately? | The result of the training course is relatively high evaluated though there is fluctuation in evaluation depending on fields and subjects. However, certain training courses are still conducted by Japanese experts due to lack of counterparts' knowledge and skills. |
| | 2. Have the evaluation of implementation of training courses to trainers been effectively utilized for revision of upcoming traing courses? | (1) Have the evaluation of training courses been adequately implemented? | The evaluation is conducted at the end of the training course by using questionnaire. The questionnaire has questions about contents of the training, scheme and utilization for trainer's classes. The questionnair is made up and rader chart is prepared as a summary. The evaluation of training courses is recognized as being adequately implemented. |
| | | (2) Have the evaluation results been effectively utilized for revision of upcoming training courses? | Based on the result of the evaluation and problems they found during the training course, the courses were revised. The evaluation result is recognized as being adequately utilized. |

# ANNEX (3)

| | | | |
|---|---|---|---|
| | 3. Have both committees of equipment management and asafety operation been effectively functioning in DTC? | (1) Have both the committees been properly held? | Equipment management committee has not been held, because equipment introduced into the Project is put under DTC's equipment management system and this system is functioning. The safe operation committee also has not been held yet though DTC has a rule of safety operation. |
| | | (2) Do both the committees have certain role in management of DTC? | Because DTC has rules on these issues, both the committees have no roles in managemet of DTC. |
| Efficiency | 1. Have the resources (man power, equipment and expenditure) been appropriately allocated and utilized? | (1) Were timing and duration of dispatched experts and assigned instructors adequate? | In the Electrical Technology and Mechanical Technology, a few counterparts have insufficient English capabilities. Only one counterpart actually remains in Construction Technology in 2008. Shortage of instructor has occurred. In other to Technologies, adequate number of counterparts remain. On the other hand, in Mechanical Technology and Construction Technology, the experts were dispatched late. It was in August 2007 to assign four long-term experts. |
| | | (2) How did experts and instructors involve to the subjects? | In Mechanical Technology and ConstructionTechnolgy, involvement by both sides is basically well done. However, in Electrical Technology, there have been some gaps between both sides about recoginition of preparation of the training course. |
| | | (3) Were timing and quantity of procured equipment adequate? | In Electrical Technology, delay in procurement of equipment affected considerablly its implementation. Regarding quantity of equipment, there were no problems. |
| | | (4) Utilization of equipment | Introduced equipment has been enough utilized for implementation of the training courses. |
| | | (5) Were timing and amount of allocated expenditure adequate? | The allocated expenditure has been adequate in aspects of timing and amount. |
| | | (6) Budget execution | Budget was excuted smoothly. |
| | 2. Has the utilization of the resources contributed to the desired effects? | (1) Contribution to the development of training courses | In Electrical Technology, instrucors made much contribution to prepare edaucationl material except for text. In other two technologies, instructors prepared half of educational materials. However, Laser cutting in Mechanical Technology was almost prepared them by instructors. |
| | | (2) Cotribution to conduct training courses | In Mechanical Technology, all training courses were implemented by counterparts as a lecturer. In other two technologies, instructors acted as an assistant lecturer or instructor of exercise. |
| Impact | 1. Have the trained trainer's knowledge and skills been improved to train in those fields ? | (1) Is the evaluation of training courses high after training? | The average evaluation score of three fields ranged 80.8 to 94.0. This means the training courses have been evaluated as high. |
| | | (2) Is self-evaluation that trainer's capability was improved high? | 76% of participants answered that the training courses were useful to upgrade their knowledge and skills. This is remarkable in computer-using technologies such as 3D CAD and CAM and in Mechanical Technology. |
| | | (3) Have the trainers been reflecting training courses on classes? | There is little room for improvement in classes because curriculums are settled by the curriculam committee in TVTC. However many trainers participated in the training course answered to try practical use in their classes. |
| | | (4) Have the contents of training courses been trasferred to colleagues? | Heads of department of the colleges evaluate that trained trainers have improved their training skills and change their attitude. |
| | 2. Are there positive or negative impacts? | (1) Are there positive impacts? | The curriculum committee inTVTC has requested proposal of new curriculum for the Project. |
| | | (2) Are there negative impacts? | Nothing to be recognized. |

# ANNEX (3)

| | | | |
|---|---|---|---|
| Sustainabilty | 1. Policy and institutional aspect | (1) Can DTC expect continual governmental support? | Because Saudization policy will be continued and DTC's activity has high priority in relationship to the 8th Development Plan, DTC isconinued to expect continuous governmental support. |
| | | (1) Does DTC continue its function? | Expansion of College of Technology will be promoted more and needs for strengthening its trainers both in quantity and quality will be growing. |
| | | (2) Are the assignment of instructors stable? | Except for a part of counterparts, other icounterparts have been assigned for the Project. |
| | | (3) Is DTC's ability to run its operation high? | DTC seems to have ability to run efficiently its operation. |
| | 2. Organizational and finacial aspect | (1) Prospect of the governmental allocation of budeget to DTC | Because DTC's activity has high priority in relationship to the 8th Development Plan, allocation of budget to DTC will be steadily continued. |
| | | (2) Prospect of the organization in future. | DTC will be a part of College for Training of Trainers which is planned to be established by September 2009, and the function of in-service training to the college trainers will continue in it |
| | 3. Technical aspect | (1) Does DTC identify necessary technical subjects to enhance? | DTC has certain difficulty in identifying necessary the subjects to be improved without collabolation with curriculum committee in TVTC. |
| | | (2) Does DTC make plan and implement its policy to be improved new training courses? | DTC is able to plan and implement existing training course. However, DTC has some difficulty in making plan and implement new training courses without collabolation with experts or speciality outside. |
| | | (3) Will equipment maintenance been adequately continued by DTC? Does the instructors have enough capacity to utilize equipment effectively? | DTC has the prescription of equipment maintenance. In accordance with this DTC has been making an invetory every year. Under the this system equipment will be maintained adequately. |
| | | (4) Did the instructors enough acquire the technologies transferred | In terms of implementation of existing training courses, many counterparts are positioned between independent and semiindependent as amain lecturer. However few instructor can prepare new training courses. |

ANNEX (4)

## Development & Training Center: Specialized Training Course Schedule

2008 NOV. 10

| 2008 | | Electric | Mechanical | Construction |
|---|---|---|---|---|
| 10 | 1 | Eid | | |
| | 2 | | | |
| | 3 | | | |
| | 4 | | | |
| | 5 | | | |
| | 6 | | | |
| | 7 | | | |
| | 8 | | | |
| | 9 | Thursday | | |
| | 10 | Friday | | |
| | 11 | | | |
| | 12 | | | |
| | 13 | | | |
| | 14 | | | |
| | 15 | | | |
| | 16 | | | |
| | 17 | | | |
| | 18 | Automatic Control (1) | | C/P Training in Indonesia |
| | 19 | Automatic Control (1) | | (3D CAD/Revit) |
| | 20 | Automatic Control (1) | | |
| | 21 | Automatic Control (1) | | |
| | 22 | Automatic Control (1) | | |
| | 23 | | | |
| | 24 | | | |
| | 25 | Automatic Control (2) | Laser Cutting | |
| | 26 | Automatic Control (2) | Laser Cutting | |
| | 27 | Automatic Control (2) | Laser Cutting | |
| | 28 | Automatic Control (2) | Laser Cutting | |
| | 29 | Automatic Control (2) | Laser Cutting | |
| | 30 | | | |
| | 31 | | | |
| 11 | 1 | Automatic Control (3) | 3D CAD/Inventor | |
| | 2 | Automatic Control (3) | 3D CAD/Inventor | |
| | 3 | Automatic Control (3) | 3D CAD/Inventor | |
| | 4 | Automatic Control (3) | 3D CAD/Inventor | |
| | 5 | Automatic Control (3) | 3D CAD/Inventor | |
| | 6 | | | |
| | 7 | | | |
| | 8 | | | 3D CAD/Architecture |
| | 9 | | | 3D CAD/Architecture |
| | 10 | | | 3D CAD/Architecture |
| | 11 | | | 3D CAD/Architecture |
| | 12 | | | 3D CAD/Architecture |
| | 13 | | | |
| | 14 | | | |
| | 15 | Power Electronics (1) | | |
| | 16 | Power Electronics (1) | | |
| | 17 | Power Electronics (1) | | |
| | 18 | Power Electronics (1) | | |
| | 19 | Power Electronics (1) | | |
| | 20 | | | |
| | 21 | | | |
| | 22 | Mechatronics (1) | Laser Cutting | |
| | 23 | Mechatronics (1) | Laser Cutting | |
| | 24 | Mechatronics (1) | Laser Cutting | |
| | 25 | Mechatronics (1) | Laser Cutting | |
| | 26 | Mechatronics (1) | Laser Cutting | |
| | 27 | | | |
| | 28 | | | |
| | 29 | | | |
| | 30 | | | |
| 12 | 1 | | | |
| | 2 | | | |
| | 3 | Eid | | |
| | 4 | | | |
| | 5 | | | |
| | 6 | | | |
| | 7 | | | |
| | 8 | | | |
| | 9 | | | |
| | 10 | | | |
| | 11 | | | |
| | 12 | | | |
| | 13 | | | |
| | 14 | | | |
| | 15 | | | |
| | 16 | | | |
| | 17 | | | |
| | 18 | | | |
| | 19 | | | |
| | 20 | PLC (STEP7) | | (Project Management) |
| | 21 | PLC (STEP7) | | (Project Management) |
| | 22 | PLC (STEP7) | | (Project Management) |
| | 23 | PLC (STEP7) | | (Project Management) |
| | 24 | PLC (STEP7) | | (Project Management) |
| | 25 | | | |
| | 26 | | | C/P Training in Bahrain |
| | 27 | | 3D CAD/Inventor | (Project Management) |
| | 28 | | 3D CAD/Inventor | |
| | 29 | | 3D CAD/Inventor | |
| | 30 | | 3D CAD/Inventor | |
| | 31 | | 3D CAD/Inventor | |

| 2009 | | Electric | Mechanical | Construction |
|---|---|---|---|---|
| 1 | 1 | | | |
| | 2 | | | |
| | 3 | Power Electronics (2) | | |
| | 4 | Power Electronics (2) | | |
| | 5 | Power Electronics (2) | | |
| | 6 | Power Electronics (2) | | |
| | 7 | Power Electronics (2) | | |
| | 8 | | | |
| | 9 | | | |
| | 10 | | CNC Milling | |
| | 11 | | CNC Milling | |
| | 12 | | CNC Milling | |
| | 13 | | CNC Milling | |
| | 14 | | CNC Milling | |
| | 15 | | | |
| | 16 | | | |
| | 17 | Automatic Control 2-3 | | |
| | 18 | Automatic Control 2-3 | | |
| | 19 | Automatic Control 2-3 | | |
| | 20 | Automatic Control 2-3 | | |
| | 21 | Automatic Control 2-3 | | |
| | 22 | | | |
| | 23 | | | C/P Training in Dubai |
| | 24 | | Laser Cutting | (3D CAD) |
| | 25 | | Laser Cutting | |
| | 26 | | Laser Cutting | |
| | 27 | | Laser Cutting | |
| | 28 | | Laser Cutting | |
| | 29 | | | |
| | 30 | | | |
| | 31 | Pneumatic & Electro-Pnuematic | | |
| 2 | 1 | Pneumatic & Electro-Pnuematic | | |
| | 2 | Pneumatic & Electro-Pnuematic | | |
| | 3 | Pneumatic & Electro-Pnuematic | | |
| | 4 | Pneumatic & Electro-Pnuematic | | |
| | 5 | | | |
| | 6 | | | |
| | 7 | | | |
| | 8 | | | |
| | 9 | | | |
| | 10 | | | |
| | 11 | | | |
| | 12 | | | |
| | 13 | | | C/P Training in Dubai |
| | 14 | Mechatronics (2) Robotics | 3D CAD/Inventor | (Project Management) |
| | 15 | Mechatronics (2) Robotics | 3D CAD/Inventor | |
| | 16 | Mechatronics (2) Robotics | 3D CAD/Inventor | |
| | 17 | Mechatronics (2) Robotics | 3D CAD/Inventor | |
| | 18 | Mechatronics (2) Robotics | 3D CAD/Inventor | |
| | 19 | | | |
| | 20 | | | |
| | 21 | Semester Holiday | | |
| | 22 | | | |
| | 23 | | | |
| | 24 | | | |
| | 25 | | | |
| | 26 | | | |
| | 27 | | | |
| | 28 | | | |
| 3 | 1 | | | |
| | 2 | | | |
| | 3 | | | |
| | 4 | | | |
| | 5 | | | |
| | 6 | | | |
| | 7 | Drive Technology (+AC) | CNC Milling | |
| | 8 | Drive Technology (+AC) | CNC Milling | |
| | 9 | Drive Technology (+AC) | CNC Milling | |
| | 10 | Drive Technology (+AC) | CNC Milling | |
| | 11 | Drive Technology (+AC) | CNC Milling | |
| | 12 | | | |
| | 13 | | | |
| | 14 | Industrial Automation & Drive T | CAD/CAM/CAE by SolidWorks | |
| | 15 | Industrial Automation & Drive T | CAD/CAM/CAE by SolidWorks | |
| | 16 | Industrial Automation & Drive T | CAD/CAM/CAE by SolidWorks | |
| | 17 | Industrial Automation & Drive T | CAD/CAM/CAE by SolidWorks | |
| | 18 | Industrial Automation & Drive T | CAD/CAM/CAE by SolidWorks | |
| | 19 | | | |
| | 20 | | | |
| | 21 | | | 3D CAD/Revit |
| | 22 | | | 3D CAD/Revit |
| | 23 | | | 3D CAD/Revit |
| | 24 | | | 3D CAD/Revit |
| | 25 | | | 3D CAD/Revit |
| | 26 | | | |
| | 27 | | | |
| | 28 | | | |
| | 29 | | | |
| | 30 | | | |
| | 31 | | | |

*The schedule of Construction field is tentative.

# Project Design Matrix (PDM) Version No.2

Date of preparation: 24 April 2007

Country: The Kingdom of Saudi Arabia
Project title: The Development and Training Center Project
Cooperation period: September 1, 2004 to March 31, 2009
Executing agency: GOTEVOT (Saudi side), JICA (Japanese side)
Project site: The Development & Training center (DTC), Riyadh

Target area: The Kingdom of Saudi Arabia
Target group: Instructors/ teachers of the colleges of technology in the field of Mechanical, Electrical and Construction technology.
Preparation method: Prepared by Project team without PCM workshop, based on survey results and the master plan.

| Narrative Summary | Objectively Verifiable Indicators | Means of Verification | Important Assumptions |
|---|---|---|---|
| OVERALL GOAL<br>Technical colleges in the Kingdom can produce students who are equipped with the required technical level of industries in the fields of mechanical, electrical and construction technologies | 1. Number of graduates employed in the relevant fields of industries<br>2. Number of student who pass the examination of occupational classification<br>3. Reputation of the college graduate's technical skill in the industries. | 1. Documents of the Collages of Technologies<br>2. Documents of GOTEVOT<br>3. Survey reports of GOTEVOT | a. Demand of employment is not negatively affected by the condition of the economy of Saudi Arabia.<br>b. Government continue its policy to strengthen the Colleges of Technologies. |
| PROJECT PURPOSE<br>Training capabilities of the instructors of DTC are improved in the above mentioned fields. | 1. Evaluation results on training courses<br>2. Number of training courses prepared by the Project.<br>3. Number of courses implemented in the D&T center under the Project.<br>4. Number of college teachers trained by the Project. | 1. Evaluation reports of training courses<br>2. Documents of the D&T center<br>3. Documents of the D&T center<br>4. Documents of the D&T center | a. Relevant fields of industries employ graduates of the Collages of Technologies.<br>b. Colleges of technology make use of skill obtained in theDTC training courses.<br>c. GOTEVOT continues its policy to strengthen the DTC |
| OUTPUT<br>1. The needs on the teacher training for the college teachers in the target fields are identified. | 1-1. Required technical skills and level based on new college curriculum is identified<br>1-2. Required technical skills and level for teacher training is identified.<br>1-3. Technical skills and level required for the graduates at the industry is identified. | 1-1. Survey reports of the Project<br>1-2-1. Survey reports of the Project<br>1-2-2. Monitoring report on trainer's evaluation of GOTEVOT<br>1-3. Survey reports of the Project | a. Colleges of Technologies continue send their teachers to training courses at the DTC<br>b. Financial support to the DTC are appropriately secured by GOTEVOT |
| 2. The training programs for the college teachers are developed. | 2-1. Number of training program prepared<br>2-2. Number of teaching manuals/materials prepared under the project | 2-1. Documents of the D&T center<br>2-2. Report of the D&T center | |
| 3. The training system for the college teachers are developed. | 3-1. Report on needs analysis of the DTC instructors<br>3-2. Technical guidance offered to the DTC instructors<br>3-3. Number of training course/seminar for college teachers implemented<br>3-4. Evaluation results of training courses. | 3-1. Report of the Project<br>3-2. Report of the project (Monitoring Sheet for Technology Transfer)<br>3-3. Documents of the DTC<br>3-4. Documents of the DTC | |
| 4. The management system of the DTC for training programs in the above mentioned fields are established. | 4-1. Number of meeting held for management board of the DTC<br>4-2. Number of meeting of equipment management committee<br>4-3. Condition of equipment/tools for training<br>4-4. Number of meeting of safe operation committee | 4-1. Documents of the DTC<br>4-2. Record of meeting<br>4-3. Equipment record<br>4-4. Record of meeting | |

| Narrative Summary | Objectively Verifiable Indicators | Means of Verification | Important Assumptions |
|---|---|---|---|
| ACTIVITIES<br>1. Identifying training needs<br>1-1. To scrutinize and analyze the curriculums of the technical colleges in the above mentioned fields<br>1-2. To survey and analyze the technical level of the college teachers.<br>1-3. To survey the technical skills and level required in the industries.<br>2. Developing training program<br>2-1. To draw up the training programs for the colleges teachers based on their current skills.<br>2-2. To draw up the training programs for the DTC instructors.<br>2-3. To develop training materials for the training of college teachers.<br>3. Implementing training on C/P and teacher training<br>3-1. To implement the technical training to the DTC instructors in the field of mechanical, electrical and construction technologies.<br>3-2. To implement the technical training to the college teachers by the DTC instructors with support of Japanese experts .<br>3-3. To evaluate training courses for the college teachers and reflect the result of evaluation into the forthcoming training programs.<br>4. Improvement on management of DTC<br>4-1. To organize the management board<br>4-2. To establish an equipment management committee<br>4-3. To make an inventory of equipment, materials and expendables<br>4-4. To establish a monitoring system on the condition of equipment and expendables.<br>4-5. To organize and run a safe operation committee in the Mechcanical Technology | INPUT<br>**Saudi Arabian side**<br>1. Personnel Assignment<br>1) Counterparts (C/Ps)<br>*Project director: 1<br>*Project manager: 1<br>*Technical Counterparts: 15<br>2. Building and facilities<br>1) Headquarter/Work shop of the DTC including office space for Japanese Experts.<br>2) Existing equipment of the DTC and the Colleges of Technologies<br>3) Transportation vehicles<br>4) Office equipment for the project office<br>3. Allocation of budget<br>1) Operational cost of the DTC<br>2) Project implementation cost<br>3) Operational cost of the project office<br>4) Travel allowance of C/Ps<br>5) Custom clearance/transport/ installation of equipment<br>6) Maintenance cost of equipment<br>7) Electricity, Water<br>8) Training expense of the college teachers<br>4. Provision of equipment<br>1) Office equipment<br>2) Training equipment | **Japanese side**<br>1. Dispatch of Japanese Experts<br>1) Long-term experts<br>Mechanical technology<br>Electrical technology<br>Construction technology<br>Project coordinator/Project Management<br>2) Short-term experts<br>2. Counterpart Training in Japan<br>3. Allocation of budget<br>* Allowance of Japanese experts<br>* Expenses of counterpart training in Japan<br>4. Provision of equipment | a. Counterparts remain in the DTC<br><br>**Preconditions**<br>a. DTC allocates qualified counterparts who have sufficient English ability.<br><br>b. Financial resources are appropriately secured. |

# Preliminary Questionnair for TVTC

Described by: _____

1. Actual number of college, teacher and student

| | | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|---|---|---|---|---|---|---|---|---|---|
| Total | Number of College of Technology | 12 | 16 | 20 | 24 | 30 | 34 | | 32 |
| | Number of teachers | | | | | | | | |
| | Number of students | | | | | | | | |
| | Number of graduates | | | | | | | | 40,770 |
| Electric | Number of College of Technology | | | | | | | | 18 |
| | Number of teachers | | | | | | | | |
| | Number of students | | | | | | | | |
| | Number of graduates | | | | | | | | 5,110 |
| Mechanic | Number of College of Technology | | | | | | | | 13 |
| | Number of teachers | | | | | | | | |
| | Number of students | | | | | | | | |
| | Number of graduates | | | | | | | | 4,206 |
| Architecute & Civil | Number of College of Technology | | | | | | | | 6 |
| | Number of teachers | | | | | | | | |
| | Number of students | | | | | | | | |
| | Number of graduates | | | | | | | | 2,144 |

＊ Above mentioned numbers of 2008 don't include ones of three colleges, Jiddah, Khafj and Qutif, due to lack of information. So would you revise them?

2. Number of potential candidates among each field's teachers, who seem necessary to be trained relevant training course at the DTC, including already trained teachers

＊ Blue cells mean colleges which have relevant fields and yellow cells mean colleges which are not clear whether ones have relevant fields.

| Name of College | Electrical Technology | | | | | Machanical Technology | | | Construction & Civil | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | PLC | Mechatronics Technology | Automatic Control Tec. | Drive Technology | Power Electronics | 2D & 3D CAD | CNC Machining | Laser Cutting | 3D CAD | Project Management | Arichtectural Technology |
| Abha | | | | | | | | | | | |
| Ar´ar | | | | | | | | | | | |
| Baha | | | | | | | | | | | |
| Braida | | | | | | | | | | | |
| Damman | | | | | | | | | | | |
| Hafr Al-Batin | | | | | | | | | | | |
| Hail | | | | | | | | | | | |
| Jowf | | | | | | | | | | | |
| Jiddah | | | | | | | | | | | |
| Jizan | | | | | | | | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Khafj | | | | | | | | | | | |
| Kharj | | | | | | | | | | | |
| Madinah | | | | | | | | | | | |
| Makkah | | | | | | | | | | | |
| Najran | | | | | | | | | | | |
| Onaizah | | | | | | | | | | | |
| Qatif | | | | | | | | | | | |
| Quwayiyah | | | | | | | | | | | |
| Riyadh | | | | | | | | | | | |
| Tabuk | | | | | | | | | | | |
| Taif | | | | | | | | | | | |
| Zulfi | | | | | | | | | | | |
| Total | | | | | | | | | | | |

3. Number of graduates who were employed by the same field of industry

| Department of College | Industry which graduates was employed | 2004 | 2005 | 2006 | 2007 | 2008 |
|---|---|---|---|---|---|---|
| Electric | Electric | | | | | |
| | Mechanic | | | | | |
| | Construction & Civil | | | | | |
| | Others | | | | | |
| | Total | | | | | |
| Mechanic | Electric | | | | | |
| | Mechanic | | | | | |
| | Construction & Civil | | | | | |
| | Others | | | | | |
| | Total | | | | | |
| Construction & Civil | Electric | | | | | |
| | Mechanic | | | | | |
| | Construction & Civil | | | | | |
| | Others | | | | | |
| | Total | | | | | |

4. Current situation of labor market (Number of employed worker by industry)

| Industry | 2004 | 2005 | 2006 | 2007 | 2008 |
|---|---|---|---|---|---|
| Electric | | | | | |
| Mechanic | | | | | |
| Construction & Civil | | | | | |
| Others | | | | | |
| Total | | | | | |

**Many thanks for your cooperation!**

# Preliminary Questionnair for DTC

Described by: _____

1. Engaged number of staffs in the project (Please check especially in yellow cells)

| | 2004 | | | | | | | | | | | | 2005 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | Jun. | Jul. | Aug. | Sep. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | Jun. | Jul. | Aug. | Sep. | Oct. | Nov. | Dec. |
| Project director | | | | | | | | | Mr. Ibraheem Al Shafi | | | | | | | | | | | | | | | |
| Project manager | | | | | | | | | Mr. Yasser Al-Humaid | | | | | | | | | | | | | | | |
| Instructor | | | | | | | | | | | | | | | | | | | | | | | | |
| Erectirc | | | | | | | | | | | | | | | | | | | | | | | | |
| resident number | | | | | | | | | Four instructors | | | | | | | | | | | | | | | |
| move in | | | | | | | | | | | | | | | | | | | | | | | | |
| move out | | | | | | | | | | | | | | | | | | | | | | | | |
| Mechanic | | | | | | | | | | | | | | | | | | | | | | | | |
| resident number | | | | | | | | | Four instructors | | | | | | | | | | | | | | | |
| move in | | | | | | | | | | | | | | | | | 1 | | | | | | | |
| move out | | | | | | | | | | | | | | | | | 1 | | | | | | | |
| Construction | | | | | | | | | | | | | | | | | | | | | | | | |
| resident number | | | | | | | | | | | | | | | | | | | | | Three instructors | | | |
| move in | | | | | | | | | | | | | | | | | | | | | | | | |
| move out | | | | | | | | | | | | | | | | | | | | | | | | |

*"move in" means number of enrolled staff and "move out" means number of transferred stuff or resigning stuff.

| | 2006 | | | | | | | | | | | | 2007 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | Jun. | Jul. | Aug. | Sep. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | Jun. | Jul. | Aug. | Sep. | Oct. | Nov. | Dec. |
| Project director | | | | | | | | | | | | | | | | | | | | | | | | |
| Project manager | | | | | | | | | | | | | | | | | | | | | | | | |
| Instructor | | | | | | | | | | | | | | | | | | | | | | | | |
| Erectirc | | | | | | | | | | | | | | | | | | | | | | | | |
| resident number | | | | | | | | | | | | | | | | | | | | | | | | |
| move in | | | | | | | | | | | | | | | | | | | | | | | | |
| move out | | | | | | | | | | | | | | | | | | | | | | | | |
| Mechanic | | | | | | | | | | | | | | | | | | | | | | | | |
| resident number | | | | | | | | | | | | | | | | | | | | | | | | |
| move in | | | | | | | | | | | | | | | | | | | | | | | | |
| move out | | | | | | | | | | | | | | | | | | | | | | | | |
| Construction | | | | | | | | | | | | | | | | | | | | | | | | |
| resident number | | | | | | | | | | | | | | | | | | | | | | | | |
| move in | | | | | | | | | | | | | | | | | | | | | | | | |
| move out | | | | | | | | | | | | | | | | | | | | | | | | |

| | 2008 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | Jun. | Jul. | Aug. | Sep. | Oct. | Nov. | Dec. |
| Project director | | | | | | | | | | | | |
| Project manager | | | | | | | | | | | | |
| Instructor | | | | | | | | | | | | |
| Erectirc | | | | | | | | | | | | |
| resident number | | | | | | | | | | | | |
| move in | | | | | | | | | | | | |
| move out | | | | | | | | | | | | |
| Mechanic | | | | | | | | | | | | |
| resident number | | | | | | | | | | | | |
| move in | | | | | | | | | | | | |
| move out | | | | | | | | | | | | |
| Construction | | | | | | | | | | | | |
| resident number | One instructor | | | | | 2 instructors | | | | | | |
| move in | | | | | | 1 | | | | | | |
| move out | ? | | | | | | | | | 1? | | |

2. Dispatch to be trained (March 2007 or later) (Please complete yellow cells with question marks)

| Electric | | | | Mechanic | | | | Construction | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Theme | Dispatched number | Term | Host-country | Theme | Dispatched number | Term | Host-country | Theme | Dispatched number | Term | Host-country |
| FMS | ? | 07/2/5-3/7 | Indonesia | | | | | | | | |
| ? (Electric) | 3 | 08/1/?-2/6 | Indonesia | | | | | | | | |
| ? (Mechanic) | 3 | 08/7/7-8/5 | Malaysia | | | | | | | | |
| 3D CAD/Revit+3DS MAX | ? | 08/10/17-11/12 | Indonesia | | | | | | | | |
| | | | | | | | | | | | |

3. Budget for operation (2007 or later)

| Expense item | 2007 | 2008 |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| Miscellaneous | | |
| Total | | |

＊ Expenditure of which amount is less than SR 100,000 may be described as miscellaneous.

4. Allocation of Budget for the project

| Expense Item | 2007 | 2008 |
|---|---|---|
| Investment in the facilities | | |
| Procurement of equipment and materials | | |
| Manpower cost | | |
| Other expenses | | |
| Total | | |

5. Number of training courses developed or implemented by the DTC in total (including training courses under the project)

| | 2004 | 2005 | 2006 | 2007 | 2008 |
|---|---|---|---|---|---|
| Number of developed training courses | | | | | |
| Number of implemented training courses | | | | | |

**Many thanks for your cooperation!**

# Preliminary Questionnair for DTC Instructor

Name of Instructor: _____

Field: _____

1. Commitment for Implementation of Training Courses

Please describe degree of your contribution for each task as 5: almost all by you, 4: much by you, 3: approximately half by you, 2: not too part by you, 1: little part by you, in other words, 5: 80%–100%, 4: 60%–79%, 3: 40%–59%, 2: 20%–39%, 1: 0%–19%

| Name of taining course ⟶ | | | | | |
|---|---|---|---|---|---|
| Process | Task | Degree of Contribution | Degree of Contribution | Degree of Contribution | Degree of Contribution |
| Development of Training Course | To decide the schema of the curriculum | | | | |
| | To prepare the list of content of the text | | | | |
| | To translate to prepare for the text | | | | |
| | To write the text | | | | |
| | To prepare educational materials except texts | | | | |
| | Others (What is it?) | ( ) | ( ) | ( ) | ( ) |
| Conduct of Training Course | To lecture the taining course | | | | |
| | To assist the lecturer | | | | |
| | To conduct the exercise | | | | |
| | To assist in conducting exercise | | | | |
| | Others (What is it?) | ( ) | ( ) | ( ) | ( ) |
| Evaluation & Revision | To analyse participants' evaluation of the training corse | | | | |
| | To revise the training course based on the evauation | | | | |

| Name of taining course ⟶ | | | | | |
|---|---|---|---|---|---|
| Process | Task | Degree of Contribution | Degree of Contribution | Degree of Contribution | Degree of Contribution |
| Development of Training Course | To decide the schema of the curriculum | | | | |
| | To prepare the list of content of the text | | | | |
| | To translate to prepare for the text | | | | |
| | To write the text | | | | |
| | To prepare educational materials except texts | | | | |
| | Others (What is it?) | ( ) | ( ) | ( ) | ( ) |
| Conduct of Training Course | To lecture the taining course | | | | |
| | To assist the lecturer | | | | |
| | To conduct the exercise | | | | |
| | To assist in conducting exercise | | | | |
| | Others (What is it?) | ( ) | ( ) | ( ) | ( ) |
| Evaluation & Revision | To analyse participants' evaluation of the training course | | | | |
| | To revise the training course based on the evauation | | | | |

2. When we divide practice of training courses into three stages, planning stage of training course, preparating stage of training course and implementing stage of training course, how do you rank your skills as ″can't,″ ″assist,″ ″do by yourself under the guidance of an expert,″ ″do comletely by yourself″? Please check in corresponding section.

| | ″can't″ | ″assist″ | ″do by yourself under the guidance of an expert″ | ″do comletely by yourself″ |
|---|---|---|---|---|
| Planning stage of training course | | | | |
| Preparating stage of training course | | | | |
| Implementing stage of training course | | | | |

3. Technologies don't stop advancing. after the project, how do you catch up new technologies? Please point out three measures which you evaluate important, and put the orders of priority about them.

| order of priority | Measures to catch up new technologies |
|---|---|
| | To make use of semminars which TVTC or the DTC offers. |
| | To acquire new technologies through relative industries. |
| | To participate in exhibitions such as machinery fair, technology fair. |
| | To participate in private exhibitions offerred by machine makers. |
| | To acquire new technologies through the Internet. |
| | To participate in relative academic conferences. |
| | To acquire information through colleges of technologies. |
| | Others ( ) |



4. Commitment for equipment maintenance and control of educational materials
Please list name of the main items corresponding to the degree of your commitment.

| | Almost all by you | Much by you | Approximately half by you | Not too part by you | Little part by you |
|---|---|---|---|---|---|
| Equipment maintenance | | | | | |
| Control of educational materials | | | | | |

5. How do you evaluate training courses regarding help to enhance college teachers' abilities of technology. Please check corresponding section.

| Check | Degree |
|---|---|
| | Much helpful |
| | Partially helpful |
| | Slightly helpful |
| | Hardly helpful |

**Many thanks for your cooperation!**

# Preliminary Questionnair for Trained Teacher

Your name: _____

Name of College: _____

Field: ☐Electric ☐Mechanic ☐Construction

Name of your participating training courses: _____

1. How do you evaluate your skill or technologies after participating the training courses of the DTC.
Please check self-evaluation regarding your participating taining courses.

| Field | Technology | Participating Date(y/m) | Excellently improved | Fairly improved | Improved | Little improved | No improved |
|---|---|---|---|---|---|---|---|
| Electric | PLC | | | | | | |
| | Mechatronics | | | | | | |
| | Automatic Control | | | | | | |
| | Drive Technology | | | | | | |
| | Power Electronics | | | | | | |
| Mechnical | 2D&3D CAD | | | | | | |
| | CNC Machining | | | | | | |
| | Laser Cutting | | | | | | |
| Construction | 3D CAD | | | | | | |
| | Projec Management | | | | | | |
| | Architectural Technology | | | | | | |

2. Effects on classes by your participating training courses. Please check the applicable box regarding your participating training courses.

| Field | Technology | To create new classes based on thaining courses | To revise existing classes accodring to training course | To wish to revise curriculums with refference to the training course (not revised yet) | No revision due to lack of equipment necessary for revised classes | No revision due to too advanced for the students | No revision due to other reasons (reason) |
|---|---|---|---|---|---|---|---|
| Electric | PLC | | | | | | ( ) |
| | Mechatronics | | | | | | ( ) |
| | Automatic Control Tec. | | | | | | ( ) |
| | Drive Tec. | | | | | | ( ) |
| | Power Electronics | | | | | | ( ) |
| Mechanical | 2D&3D CAD | | | | | | ( ) |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | CNC Machining | | | | | | ( ) |
| | Laser Cutting | | | | | | ( ) |
| Costruction | 3D CAD | | | | | | ( ) |
| | Project Management | | | | | | ( ) |
| | Architectural Tec. | | | | | | ( ) |

3. Please describe names of classes, which you created or revised based on your participating training courses, and total number of resistered students to have those classes.

| Name of class | Number of student to have the class |
|---|---|
| | |
| | |
| | |
| | |
| | |

**Many thanks for your cooperation!**

# 予備質問票(専門家)

専門家氏名：＿＿＿＿＿＿＿＿＿＿＿＿
分野:＿＿＿＿＿＿＿＿＿＿＿＿

分野ごとの専門家への問は1と2、ﾁｰﾌｱﾄﾞﾊﾞｲｻﾞｰ/
業務調整専門家への問は3～5となっています。

1. 研修コースについて貴兄の関与の程度を業務ごとに評価してください。評価は5段階で、5: ほとんどまたはすべて自分でやった、4: かなりの部分を自分でやった、
3: 半分前後は自分でやった、2: あまりやらなかった、1: ほとんどやらなかった

| 研修コースの名称 ⟶ | | | | | |
|---|---|---|---|---|---|
| 過程 | 業務 | 貢献割合 | 貢献割合 | 貢献割合 | 貢献割合 |
| Development of Training Course | カリキュラムの概要を決めた | | | | |
| | テキストの目次を作成した | | | | |
| | テキストのため翻訳をした | | | | |
| | テキストを書いた | | | | |
| | テキスト以外の教材を準備した | | | | |
| | その他 (それは何ですか?) | ( ) | ( ) | ( ) | ( ) |
| Conduct of Training Course | 研修で講師をした | | | | |
| | 講師の補助をした | | | | |
| | 実習を指導した | | | | |
| | 実習の補助をした | | | | |
| | その他 (それは何ですか?) | ( ) | ( ) | ( ) | ( ) |
| 評価と見直し | 研修結果のアンケートを分析した | | | | |
| | 評価に応じて研修コースの見直しをした | | | | |

| 研修コースの名称 ⟶ | | | | | |
|---|---|---|---|---|---|
| 過程 | 業務 | 貢献割合 | 貢献割合 | 貢献割合 | 貢献割合 |
| Development of Training Course | カリキュラムの概要を決めた | | | | |
| | テキストの目次を作成した | | | | |
| | テキストのため翻訳をした | | | | |
| | テキストを書いた | | | | |
| | テキスト以外の教材を準備した | | | | |
| | その他 (それは何ですか?) | ( ) | ( ) | ( ) | ( ) |
| Conduct of Training Course | 研修で講師をした | | | | |
| | 講師の補助をした | | | | |
| | 実習を指導した | | | | |
| | 実習の補助をした | | | | |
| | その他 (それは何ですか?) | ( ) | ( ) | ( ) | ( ) |
| 評価と見直し | 研修結果のアンケートを分析した | | | | |
| | 評価に応じて研修コースの見直しをした | | | | |

2. 機材(品目ごとに総額が1万ドル以上のものについて、ソフトウェアを含む)が各研修コースにどのように活用されたかを記号で記入してください。
記入方法　A: 研修コースの開発に使用、B: 研修の実施に使用、C: 研修コースの開発とその実施の両方に使用、空欄: 両者に使用していない場合

| 機材名＼研修コース | | | | | | | | |
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3. プロジェクトに従事した専門家(2007年以降) (ﾁｰﾌｱﾄﾞﾊﾞｲｻﾞｰ/業務調整のみ回答)
*氏名を記入し、離任の月まで横線を引いてください。長期休暇は破線を引いてください

| | 2007 | | | | | | | | | | | | 2008 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | Jun. | Jul. | Aug. | Sep. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | Jun. | Jul. | Aug. | Sep. | Oct. | Nov. | Dec. |
| 業務調整 | 高橋 | | | | | | | | 8/31 | | | | | | | | | | | | | | | |
| 専門家 | | | | | | | | | | | | | | | | | | | | | | | | |
| ﾁｰﾌｱﾄﾞﾊﾞｲｻﾞｰ/業務調整 | 石垣 | | | | | | 8/23 | | | | | | | | | | | | | | | | | |
| 電気 | | | | | | | | | | | | | | | | | | | | | | | | |
| 長期専門家 | 土屋 | | | | | | | | | | | | | | | | | | | | | | | |
| 短期専門家 | | | 森田(3/9-15 | | | | | | | 森田(10/31-11/12) | | | | | | | | | | | | | | |
| 機械 | | | | | | | 7/10 | 8/14 | | | | | | | | | | | | | | | | |
| 長期専門家 | 澤田 | | | | | | | | | | | | | | | | | | | | | | | |
| 短期専門家 | | | 草薙(3/16-2 | | | | | | | | | | | | | | | | | | | | | |
| 建築 | | | | | | | | | | | | | | | | | | | | | | | | |
| 長期専門家 | 石井 | | | | | | | | | | | | | | | | | | | | | | | |
| 短期専門家 | | | | | | | | | | 本間(10/26-11/8) | | | | | 大久保(3/23-4/9) | | | | | | | | | |

4. 機材供与 (2007年3月以降)(ﾁｰﾌｱﾄﾞﾊﾞｲｻﾞｰ/業務調整のみ回答)

| 機材名 | 数量 | 金額 | 機材名 | 数量 | 金額 | 機材名 | 数量 | 金額 |
|---|---|---|---|---|---|---|---|---|
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| | | | | | | その他 | | |
| | | | | | | 合　計 | | |

＊品目の総額が5万リアル(約13,000ドル)未満の機材はその他として一括掲載してください。

5. 経費の費消 (2007年以降)(ﾁｰﾌｱﾄﾞﾊﾞｲｻﾞｰ/業務調整のみ回答)

| 費　目 | 2007 | 2008 |
|---|---|---|
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| | | |
| | | |
| | | |
| その他 | | |
| 合　計 | | |

＊合計金額が10万リアル(約26,000ドル)未満の費目はその他として一括掲載してください。

**ご協力ありがとうございました**

Saudi Arabia Development and Training Center (DTC) : Training Course Guide (1)

| No. | Course Title | Course Contents | The Participants will be capable for: | Target Level (Participant's Qualification) | Instructor |
|---|---|---|---|---|---|
| E1 | PLC Basic Function (LOGO!)<br>*Location DTC<br>*Duration 5 days<br>*No. of Trainee 5-10<br>*On-site training is possible. | The features of PLC, Basic functions of PLC (AND, OR, NOT, NAND, NOR, XOR), Special functions of PLC. (on delay, off delay, on/off delay, programmed timer. Time chart), Software simulation of PLC, PLC programming (Ladder programs and function block diagrams), Induction motor control (Automatic start/stop, timer functions, forward/reverse running control) | Conducting ladder circuits, logical symbols, Boolean algebra and truth tables. Conducting ladder diagram and function block diagram programming. Conducting graphical PLC programming and software simulation. Handling of PLC. Motor control. | Beginners of PLC. Participants need basic knowledge of electricity and electronics. It is desirable to understand logical theories or circuits. Basic PC operation skill is required. | CP |
| E2 | PLC STEP7<br>*Location DTC<br>*Duration 5 days<br>*No. of Trainee 5-10<br>*On-site training is possible. | The features of PLC, Hard ware configuration, Basic functions of PLC (AND, OR, NOT, NAND, NOR, XOR), Special functions of PLC (on delay, off delay, on/off delay, programmed timer, time chart), Software simulation of PLC, PLC programming (Ladder and function block diagrams), Software emulation (EasyPort and EasyVeep) | Conducting ladder diagrams, logical symbols, Boolean algebra and truth tables.<br>Conducting ladder diagram and function block diagram programming. Conducting graphical PLC programming and software simulation. Handling of PLC. He can apply the PLC to many kinds of applications. | Beginners of PLC. Participants need basic knowledge of electricity and electronics. It is desirable to understand logical theories and circuits. Basic PC operation skill is required. | CP |
| E3 | Pneumatics & Electro-pneumatics<br>*Location DTC<br>*Duration 5 days<br>*No. of Trainee 4-8 | The feature of pneumatics, Pneumatic elements & Electro-pneumatic elements (many kinds of valves, cylinders, switches, solenoid and etc.), Structure of Pneumatic circuits. | Conducting how it works pneumatic and electro-pneumatic elements. Conducting how to assemble a pneumatic and electro- pneumatic circuit. Handling of pneumatic and electro-pneumatic. | Beginners of pneumatics. It is desirable to understand logical theories and circuits. | CP |
| E4 | PLC & Pneumatics<br>*Location DTC<br>*Duration 5 days<br>*No. of Trainee 4-8 | Pneumatic control, Electro-pneumatic control, PLC programming, Pneumatic and PLC combined control | Conducting how to assemble pneumatic and PLC combined circuits and its control. | Experienced people of PLC. Participants need basic knowledge of electricity and electronics. Basic PC operation skill is required. | CP |
| E5 | Mechatronics (1) PLC<br>*Location DTC<br>*Duration 5 days<br>*No. of Trainee 5-10 | FMS station control by COSMIL PLC, Simulation of Process model, Loading PLC program, Selection of work space windows, User specified workspace, Manual operation, Fault simulation, Controlling with external PLC, Controlling with real PLC, Software emulation (EasyPort and EasyVeep) | Conducting how to handle COSMIL PLC software. Conducting how to control a mechatronics equipment. Conducting a simulation technique of PLC. Conducting a fault simulation. | Experienced people of PLC and pneumatics. Participants need knowledge of basic electricity and electronics.<br>Basic PC operation skill is required. | CP |
| E6 | Mechatronics (2) Robotics<br>*Location DTC<br>*Duration 5 days<br>*No. of Trainee 4-8 | Arm robot control by COSMIL Educational (Using a kind of robot model), Know-haw (How to solve the tasks), Description of the model, Select a component, I/O connection, Robotics programming | Conducting an arm robot control.<br>Conducting a robot control programming.<br>Handling of an arm robot. | Experienced people of PLC and pneumatics. Participants need basic knowledge of electricity and electronics. Basic PC operation skill is required. | CP |
| E7 | Power Electronics (1)<br>*Location DTC<br>*Duration 5 days<br>*No. of Trainee 5-10<br>*On-site training is possible. | Virtual instrument operation by UniTr@in and VI starter:<br>*Power Electronics (1) by UniTr@in and virtual instrument.<br>・ Learn about most line-commutated converter circuits<br>・ Analyze the voltage and current characteristics of the individual circuits<br>・ Analyze the effect of a freewheeling arm<br>・ Hole storage effect (transistor storage effect)<br>・ Learn the control characteristics of the line-commutated converters<br>・ Learn how triggering works with an ignition transformer<br>・ Converter circuits (Controlled & uncontrolled : M1, B2, B6) | Conducting how to use a virtual instrument.<br>Conducting line-commutated converter circuits.<br>Conducting how to analyze power electronics circuits. Conducting how to give the trigger to the circuits. | Participants need basic knowledge of electricity and electronics. Participants need basic knowledge of semiconductors. Basic PC operation skill is required. | CP<br>JE |
| E8 | Power Electronics (2)<br>*Location DTC<br>*Duration 5 days<br>*No. of Trainee 5-10<br>*On-site training is possible. | Virtual instrument operation by UniTr@in and VI starter:<br>*Power electronics (2) by UniTr@in and virtual instrument.<br>・ Power semiconductors<br>・ Generating variable DC voltage using PWM (Pulse Width Modulation)<br>・ Single quadrant operating mode<br>・ Four quadrant operating mode<br>・ Control response<br>・ Effect of operating frequency | Conducting how it works power semiconductors.<br>Conducting PWM control of DC voltage.<br>Conducting quadrant operating mode.<br>Conducting FFT analysis of harmonics. | Participants need basic knowledge of power electronics. Basic PC operation skill is required. | CP<br>JE |

| | | | | | |
|---|---|---|---|---|---|
| | | ・ Resistive and resistive-inductive load<br>・ FFT analysis of harmonics | | | |
| E9 | Drive Technology<br>*Location DTC<br>*Duration 5 days<br>*No. of Trainee 4-8 | Speed control with single converter, Speed control with double converter, 4-quadrant operation and power recovery, Line analysis and P-/PI-/PID controllers, Optimizing the controller, Speed control in 1 to 4-quadrant operation with and without secondary current control | Conducting several kinds of speed control operations. | Participants need basic knowledge of power electronics. Basic PC operation skill is required. | CP<br>JE |
| E10 | Automatic Control Technology (1)<br>*Location DTC<br>*Duration 5 days<br>*No. of Trainee 4-8<br>*On-site training is possible. | Virtual instrument operation by by UniTr@in and VI starter:<br>*Control Technology (1) by UniTr@in and L@bSoft<br>・ Operating principles of open-loop and closed-lop control technology<br>・ How basic control technology elements are characterized on the basis of their time responses<br>・ The design and operation of conventional continuous and discontinuous controllers, in particular the PID controller<br>・ Structure of the closed control loop, how responses to set point changes and disturbance variables are assessed<br>・ Designing PID controllers based on optimization guidelines in the time domain<br>・ Control loop analyses and synthesis in the frequency domain<br>・ Automatic controls with discontinuous controllers, in particular two-position and three-position controllers | Conducting how to use a virtual instrument.<br>Conducting operating principles of open-loop and closed-lop control technology.<br>Conducting time response of control elements.<br>Conducting the design and operation of PID controller.<br>Conducting a structure of the closed loop control. | Participants need basic knowledge of electricity and electronics. Basic PC operation skill is required. | CP<br>JE |
| E11 | Automatic Control Technology (2)<br>*Location DTC<br>*Duration 2 weeks (It can be divided for 2 courses)<br>*No. of Trainee 4-8<br>*On-site training is possible. | Virtual instrument operation by by UniTr@in and VI starter:<br>*Control technology (2) by UniTr@in and L@bSoft<br>・Real control system (Temperature control, Speed control, Lighting control)<br>・Step response<br>・Reference and disturbance variables<br>・Timing diagrams<br>・Bode plots<br>・Locus diagram | Conducting some kinds of real control examples.<br>Conducting control fundamental functions and its characteristics.<br>(Step response, reference and disturbance variables, timing diagrams, Bode plots, locus diagram) | Participants need basic knowledge of electricity and electronics. Basic PC operation skill is required. | CP<br>JE |
| E12 | Automatic Control Technology (3)<br>*Location DTC<br>*Duration 5 days<br>*No. of Trainee 4-8<br>*On-site training is possible. | *Automatic control technology (3) by CLP20:<br>・ Parameter adjustment, programming and operating a PLC system<br>・ Project planning and operating an Operator panel<br>・ Parameter adjustment and operating a frequency converter<br>・ Project planning and operating a field-bus system<br>・ Optimizing the parameters to the various adjustable work machines | Conducting an automatic control system operation.<br>Conducting an automatic control system<br>(Parameter adjustment, control by PLC, frequency converter, field bus system and etc.) | Participants need basic knowledge of control technology.<br>Participants need basic knowledge of PLC programming. | CP<br>JE |
| E13 | Industry Automation & Drive System Seminar<br>*Location DTC Electric<br>*Duration 5 days<br>*No. of Trainee 10-20 | Importance of Industry Automation, Automatic control theory, Motor drive system, Power electronics, Drive System Innovations by Micro-Processor Introduction, General Form for Industry Automation System, based on Three Layers Structure Control System | Conducting an automation total system outline.<br>Getting some kinds of teaching methodology in the field of industry automation and drive system. | Participants need basic knowledge of electricity and power electronics. | JE |
| | | | | | |
| M1 | 3D CAD<br>*Location DTC<br>*Duration 5 days<br>*No. of Trainee 8 | 3D CAD (Autodesk Inventor):<br>2D Sketch, 3D Sketch, Dimension and Constraint, Part Feature, Parametric editing, Assembly, Sheet Metal, Stress and Moment Analysis, Exercise of Solid Modeling. | Understanding of 3D CAD (Solid Modeler) Technology and mastering Solid Modeling of miscellaneous products. | Junior to Medium level engineers (BSc in Mechanical Engineering), 1-10 years related job experience. | CP<br>JE |
| M2 | CAM & CNC Milling<br>*Location DTC<br>*Duration 5 days<br>*No. of Trainee 8 | 3D CAM (Modela Player 4, Rhino CAM), CNC Machine (ROLAND MDX-650, MDX-20):<br>CNC Machining Technology, 3D CAM (2-axis, 3-axis, 4-axis), Surface Editing, G-code, Cutting Condition, Exercise of 3D CAM and CNC Machining. | Understanding of CNC Machining Technology and 3D CAD/CAM (Surface Modeler, 4-axis machining). Mastering operation of CNC Machining and 3D CAD/CAM. | Junior to Medium level engineers (BSc in Mechanical Engineering), 1-10 years related job experience. | CP<br>JE |
| M3 | Laser Cutting<br>*Location DTC | CAD/CAM (One CNC), Laser Cutting Machine (AMADA Quattro 1000w):<br>Laser Cutting Technology, CAD/CAM Command, Exercise of CAD/CAM, | Understanding of Laser Cutting Technology and CAD/CAM. Mastering operation of Laser Cutting | Junior to Medium level engineers (BSc in Mechanical Engineering), 1-10 years | CP<br>JE |

Saudi Arabia Development and Training Center (DTC) : Training Course Guide (3)

| | | | | | |
|---|---|---|---|---|---|
| | *Duration 5 days<br>*No. of Trainee 6 | Machine Start-up & setting, operation, exercise of Laser Cutting Machine. | Machine and CAD/CAM. | related job experience. | |
| C1 | 3D CAD: AutoCAD Architecture 2008<br>*Location DTC<br>*Duration 5 days<br>*No. of Trainee 6 | Feature of BIM (Building Information Modeling), Basic operation of AutoCAD Architecture 2008, Create small project, basic presentation. | Understanding features of BIM and Mastering operation for AutoCAD Architecture 2008. | Basically instructor of Architecture Department and CAD trainer who have an experience of drawing and using AutoCAD. | CP<br>JE |
| C2 | 3D CAD: Revit Architecture 2008<br>*Location DTC<br>*Duration 5 days<br>*No. of Trainee 6 | Feature of BIM (Building Information Modeling), Basic operation of Revit Architecture 2008. Create small project, basic presentation. | Understanding features of BIM and Mastering operation for Revit Architecture 2008. | Basically instructor of Architecture Department and CAD trainer who have an experience of drawing and using AutoCAD. | CP<br>JE |
| C3 | Project Management<br>*Location DTC<br>*Duration 5 days<br>*No. of Trainee 6 | The project Management in Construction, Scope, Time, Cost, Human Resources, Communication, Risk, Procurement, Quality, Integration. Introduce the Ms Project 2007 and Primavera | To manage the construction project. | BSc in construction. | CP<br>JE |

*E1 – E13: Electrical Training Courses
*M1 – M3: Mechanical Training Courses
*C1 – C3: Construction Training Courses
*Abbreviation of Instructor: CP=Saudi Counterpart Personnel, JE=Japanese Expert, LC=Local Consultant, FC=Foreign Consultant

# Mechanical Training Course Evaluation (Result)

## 3D CAD (Autodesk Inventor 2008)

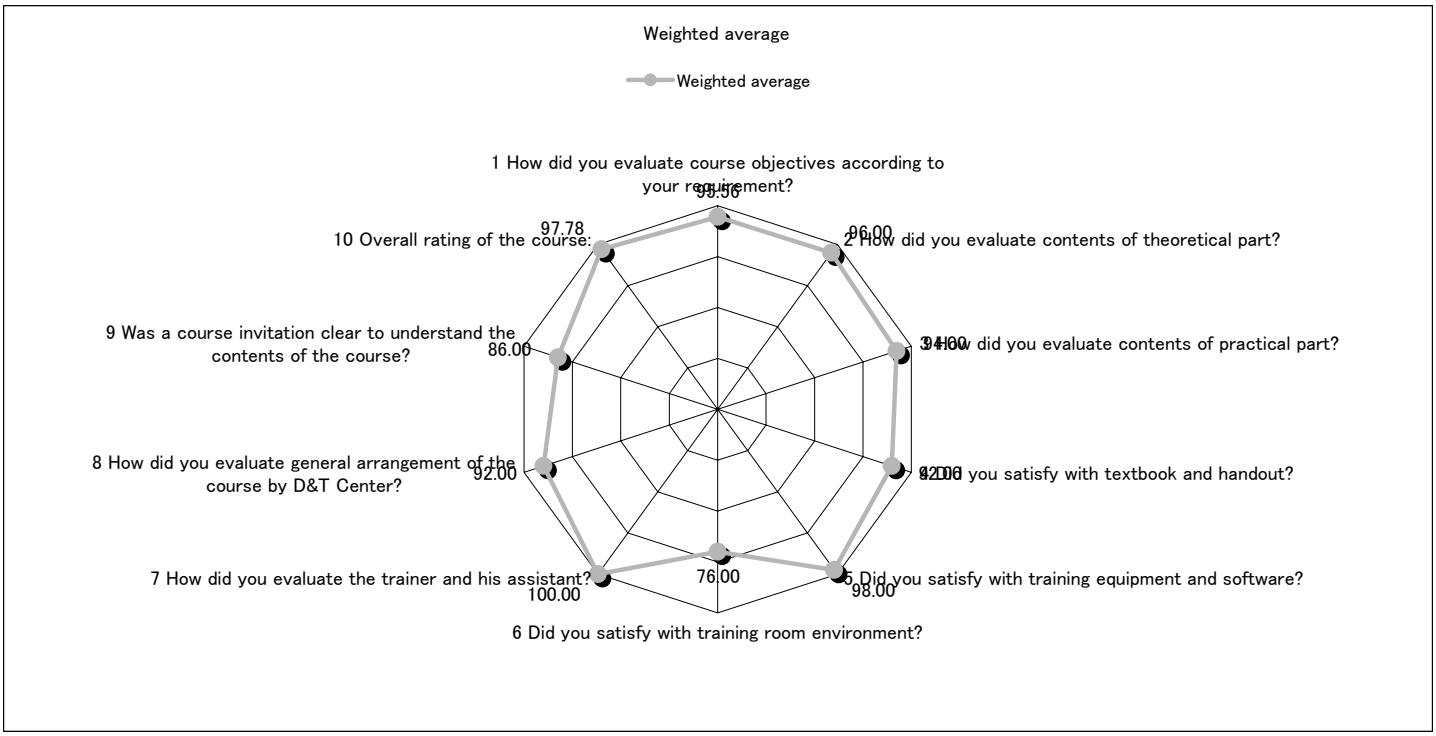
2008/3/29 - 2008/4/02

| | | Very Good | Good | Fair | Poor | Very Poor | Weighted average |
|---|---|---|---|---|---|---|---|
| **1** | How did you evaluate **course objectives** according to your requirement? | 7 | 2 | 0 | 0 | 0 | 95.56 |
| **2** | How did you evaluate **contents of theoretical part**? | 8 | 2 | 0 | 0 | 0 | 96.00 |
| **3** | How did you evaluate **contents of practical part**? | 7 | 3 | 0 | 0 | 0 | 94.00 |
| **4** | Did you satisfy with **textbook and handout**? | 6 | 4 | 0 | 0 | 0 | 92.00 |
| **5** | Did you satisfy with training **equipment and software**? | 9 | 1 | 0 | 0 | 0 | 98.00 |
| **6** | Did you satisfy with **training room** environment? | 5 | 1 | 1 | 3 | 0 | 76.00 |
| **7** | How did you evaluate the **trainer** and his assistant? | 10 | 0 | 0 | 0 | 0 | 100.00 |
| **8** | How did you evaluate **general arrangement** of the course by D&T Center? | 6 | 4 | 0 | 0 | 0 | 92.00 |
| **9** | Was a **course invitation** clear to understand the contents of the course? | 4 | 5 | 1 | 0 | 0 | 86.00 |
| **10** | **Overall rating** of the course: | 8 | 1 | 0 | 0 | 0 | 97.78 |
| | | | | | | **Average (in 100%)** | **92.73** |

| | | Good | | Too short | | Too long | |
|---|---|---|---|---|---|---|---|
| **11** | Was the **lecture hour** of the theory appropriate? | 7 | | 3 | | 0 | |
| **12** | Was the **exercise hour** of the practice appropriate? | 9 | | 1 | | 0 | |
| **13** | Was the **length of the training** appropriate? | 3 | | 7 | | 0 | |

| | | Yes | | Too late | | Too early | |
|---|---|---|---|---|---|---|---|
| **14** | Did you receive a **course invitation** at an appropriate time? | 4 | | 6 | | 0 | |

| | | Yes, very much | | Yes, some part | | Nothing | |
|---|---|---|---|---|---|---|---|
| **15** | Do you **utilize theoretical part** of the training to your class in the college? | 1 | | 7 | | 0 | 65.00 |
| **16** | Do you **utilize practical part** of the training to your class in the college? | 3 | | 5 | | 0 | 75.00 |
| **17** | Do you **recommend the training equipment/software** which was used in the course to college management to purchase? | 7 | | 1 | | 0 | 95.00 |



## Mechanical Training Course Evaluation (Result)

### 3D CAD (Autodesk Inventor 2008)

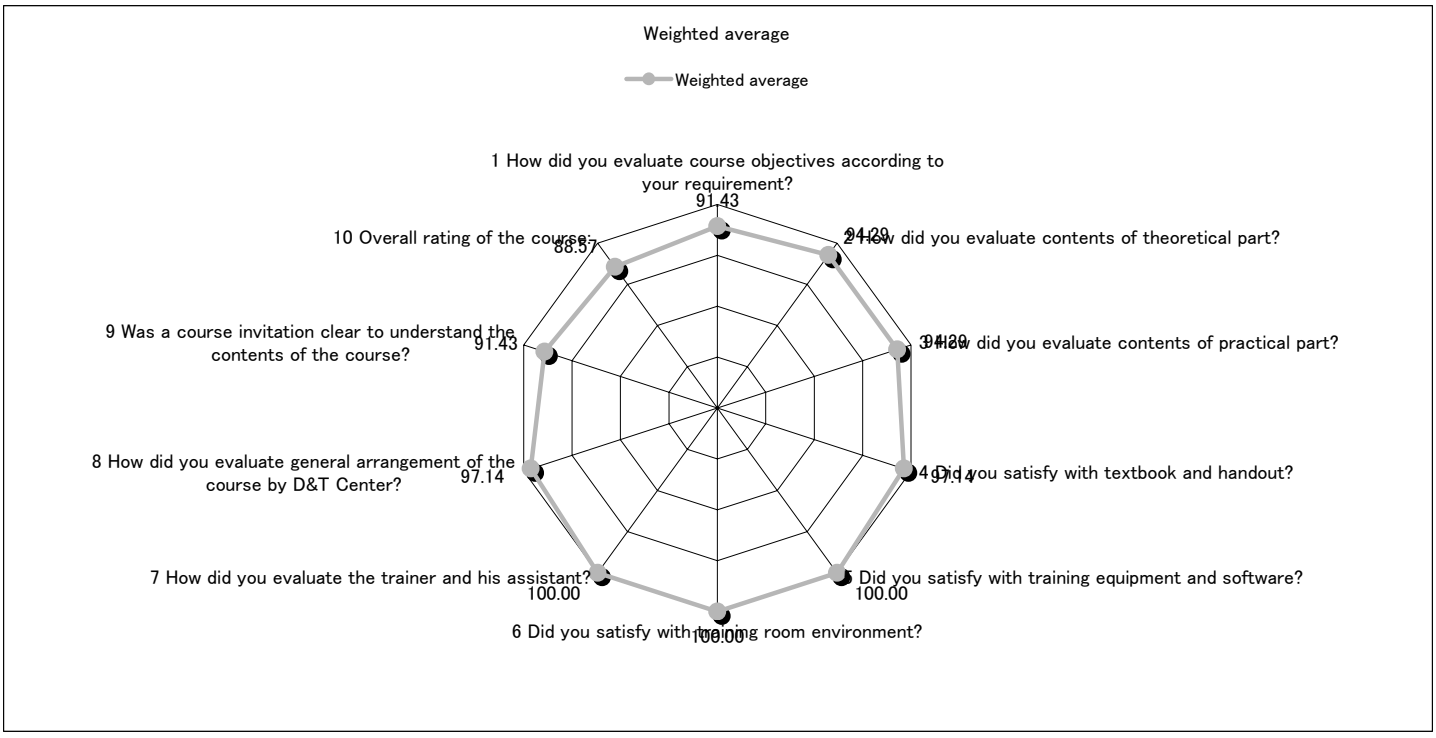
2008/9/13 - 2008/9/17

| | | Very Good | Good | Fair | Poor | Very Poor | Weighted average |
|---|---|---|---|---|---|---|---|
| **1** | How did you evaluate **course objectives** according to your requirement? | 5 | 1 | 1 | 0 | 0 | 91.43 |
| **2** | How did you evaluate **contents of theoretical part**? | 5 | 2 | 0 | 0 | 0 | 94.29 |
| **3** | How did you evaluate **contents of practical part**? | 5 | 2 | 0 | 0 | 0 | 94.29 |
| **4** | Did you satisfy with **textbook and handout**? | 6 | 1 | 0 | 0 | 0 | 97.14 |
| **5** | Did you satisfy with training **equipment and software**? | 7 | 0 | 0 | 0 | 0 | 100.00 |
| **6** | Did you satisfy with **training room** environment? | 7 | 0 | 0 | 0 | 0 | 100.00 |
| **7** | How did you evaluate the **trainer** and his assistant? | 7 | 0 | 0 | 0 | 0 | 100.00 |
| **8** | How did you evaluate **general arrangement** of the course by D&T Center? | 6 | 1 | 0 | 0 | 0 | 97.14 |
| **9** | Was a **course invitation** clear to understand the contents of the course? | 6 | 0 | 0 | 1 | 0 | 91.43 |
| **10** | **Overall rating** of the course: | 3 | 4 | 0 | 0 | 0 | 88.57 |
| | | | | | | **Average (in 100%)** | **95.43** |

| | | Good | | Too short | | Too long | |
|---|---|---|---|---|---|---|---|
| **11** | Was the **lecture hour** of the theory appropriate? | 5 | | 2 | | 0 | |
| **12** | Was the **exercise hour** of the practice appropriate? | 4 | | 3 | | 0 | |
| **13** | Was the **length of the training** appropriate? | 4 | | 3 | | 0 | |

| | | Yes | | Too late | | Too early | |
|---|---|---|---|---|---|---|---|
| **14** | Did you receive a **course invitation** at an appropriate time? | 5 | | 2 | | 0 | |

| | | Yes, very much | | Yes, some part | | Nothing | |
|---|---|---|---|---|---|---|---|
| **15** | Do you **utilize theoretical part** of the training to your class in the college? | 5 | | 1 | | 1 | 82.86 |
| **16** | Do you **utilize practical part** of the training to your class in the college? | 5 | | 1 | | 1 | 82.86 |
| **17** | Do you **recommend the training equipment/software** which was used in the course to college management to purchase? | 6 | | 0 | | 1 | 88.57 |



## Mechanical Training Course Evaluation (Result)

### 3D CAD (Autodesk Inventor 2008)

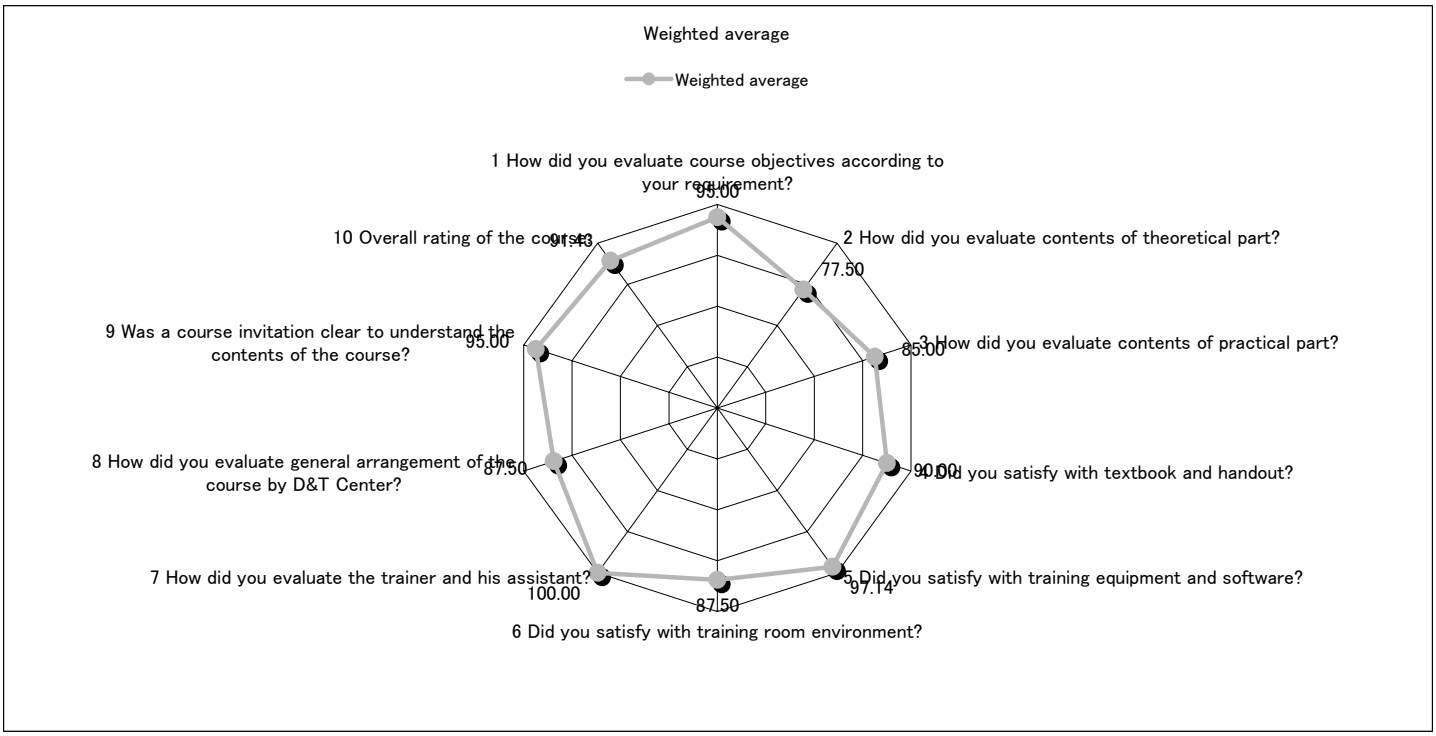
2008/11/01 - 2008/11/05

| | | Very Good | Good | Fair | Poor | Very Poor | Weighted average |
|---|---|---|---|---|---|---|---|
| **1** | How did you evaluate **course objectives** according to your requirement? | 6 | 2 | 0 | 0 | 0 | 95.00 |
| **2** | How did you evaluate **contents of theoretical part**? | 1 | 5 | 2 | 0 | 0 | 77.50 |
| **3** | How did you evaluate **contents of practical part**? | 3 | 4 | 1 | 0 | 0 | 85.00 |
| **4** | Did you satisfy with **textbook and handout**? | 5 | 2 | 1 | 0 | 0 | 90.00 |
| **5** | Did you satisfy with training **equipment and software**? | 6 | 1 | 0 | 0 | 0 | 97.14 |
| **6** | Did you satisfy with **training room** environment? | 4 | 3 | 1 | 0 | 0 | 87.50 |
| **7** | How did you evaluate the **trainer** and his assistant? | 8 | 0 | 0 | 0 | 0 | 100.00 |
| **8** | How did you evaluate **general arrangement** of the course by D&T Center? | 4 | 3 | 1 | 0 | 0 | 87.50 |
| **9** | Was a **course invitation** clear to understand the contents of the course? | 6 | 2 | 0 | 0 | 0 | 95.00 |
| **10** | **Overall rating** of the course: | 4 | 3 | 0 | 0 | 0 | 91.43 |
| | | | | | | **Average (in 100%)** | **90.61** |

| | | Good | | Too short | | Too long | |
|---|---|---|---|---|---|---|---|
| **11** | Was the **lecture hour** of the theory appropriate? | 3 | | 5 | | 0 | |
| **12** | Was the **exercise hour** of the practice appropriate? | 5 | | 3 | | 0 | |
| **13** | Was the **length of the training** appropriate? | 4 | | 4 | | 0 | |

| | | Yes | | Too late | | Too early | |
|---|---|---|---|---|---|---|---|
| **14** | Did you receive a **course invitation** at an appropriate time? | 0 | | 0 | | 0 | |

| | | Yes, very much | | Yes, some part | | Nothing | |
|---|---|---|---|---|---|---|---|
| **15** | Do you **utilize theoretical part** of the training to your class in the college? | 4 | | 4 | | 0 | 80.00 |
| **16** | Do you **utilize practical part** of the training to your class in the college? | 4 | | 4 | | 0 | 80.00 |
| **17** | Do you **recommend the training equipment/software** which was used in the course to college management to purchase? | 6 | | 2 | | 0 | 90.00 |



# Mechanical Training Course Evaluation (Result)

## CNC Milling

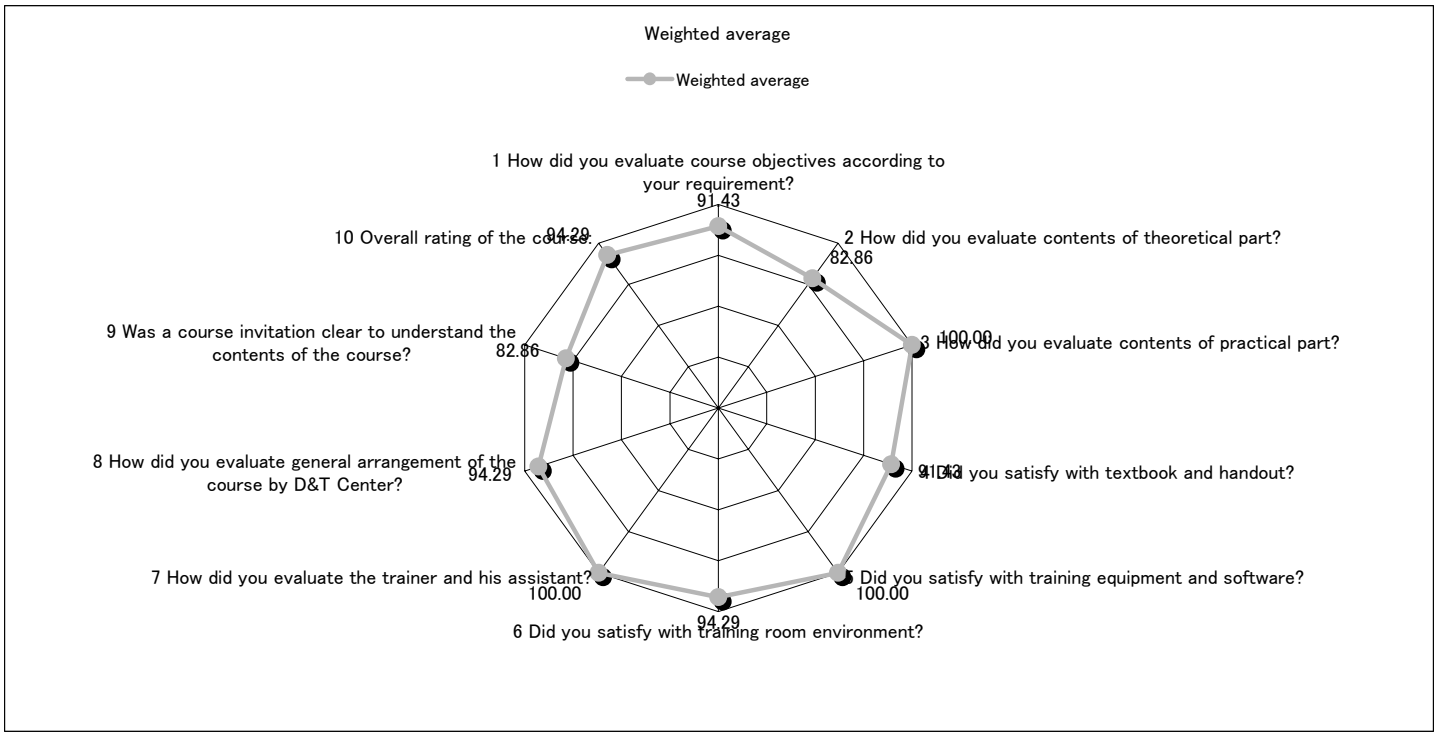
2008/6/28 - 2008/7/02

| | | Very Good | Good | Fair | Poor | Very Poor | Weighted average |
|---|---|---|---|---|---|---|---|
| **1** | How did you evaluate **course objectives** according to your requirement? | 5 | 1 | 1 | 0 | 0 | 91.43 |
| **2** | How did you evaluate **contents of theoretical part**? | 2 | 4 | 1 | 0 | 0 | 82.86 |
| **3** | How did you evaluate **contents of practical part**? | 7 | 0 | 0 | 0 | 0 | 100.00 |
| **4** | Did you satisfy with **textbook and handout**? | 4 | 3 | 0 | 0 | 0 | 91.43 |
| **5** | Did you satisfy with training **equipment and software**? | 7 | 0 | 0 | 0 | 0 | 100.00 |
| **6** | Did you satisfy with **training room** environment? | 5 | 2 | 0 | 0 | 0 | 94.29 |
| **7** | How did you evaluate the **trainer** and his assistant? | 7 | 0 | 0 | 0 | 0 | 100.00 |
| **8** | How did you evaluate **general arrangement** of the course by D&T Center? | 5 | 2 | 0 | 0 | 0 | 94.29 |
| **9** | Was a **course invitation** clear to understand the contents of the course? | 3 | 2 | 2 | 0 | 0 | 82.86 |
| **10** | **Overall rating** of the course: | 5 | 2 | 0 | 0 | 0 | 94.29 |
| | | | | | | **Average (in 100%)** | **93.14** |

| | | Good | | Too short | | Too long | |
|---|---|---|---|---|---|---|---|
| **11** | Was the **lecture hour** of the theory appropriate? | 4 | | 3 | | 0 | |
| **12** | Was the **exercise hour** of the practice appropriate? | 7 | | 0 | | 0 | |
| **13** | Was the **length of the training** appropriate? | 3 | | 3 | | 1 | |

| | | Yes | | Too late | | Too early | |
|---|---|---|---|---|---|---|---|
| **14** | Did you receive a **course invitation** at an appropriate time? | 5 | | 2 | | 0 | |

| | | Yes, very much | | Yes, some part | | Nothing | |
|---|---|---|---|---|---|---|---|
| **15** | Do you **utilize theoretical part** of the training to your class in the college? | 3 | | 4 | | 0 | 77.14 |
| **16** | Do you **utilize practical part** of the training to your class in the college? | 3 | | 4 | | 0 | 77.14 |
| **17** | Do you **recommend the training equipment/software** which was used in the course to college management to purchase? | 7 | | 0 | | 0 | 100.00 |



## Mechanical Training Course Evaluation (Result)

### Laser Cutting

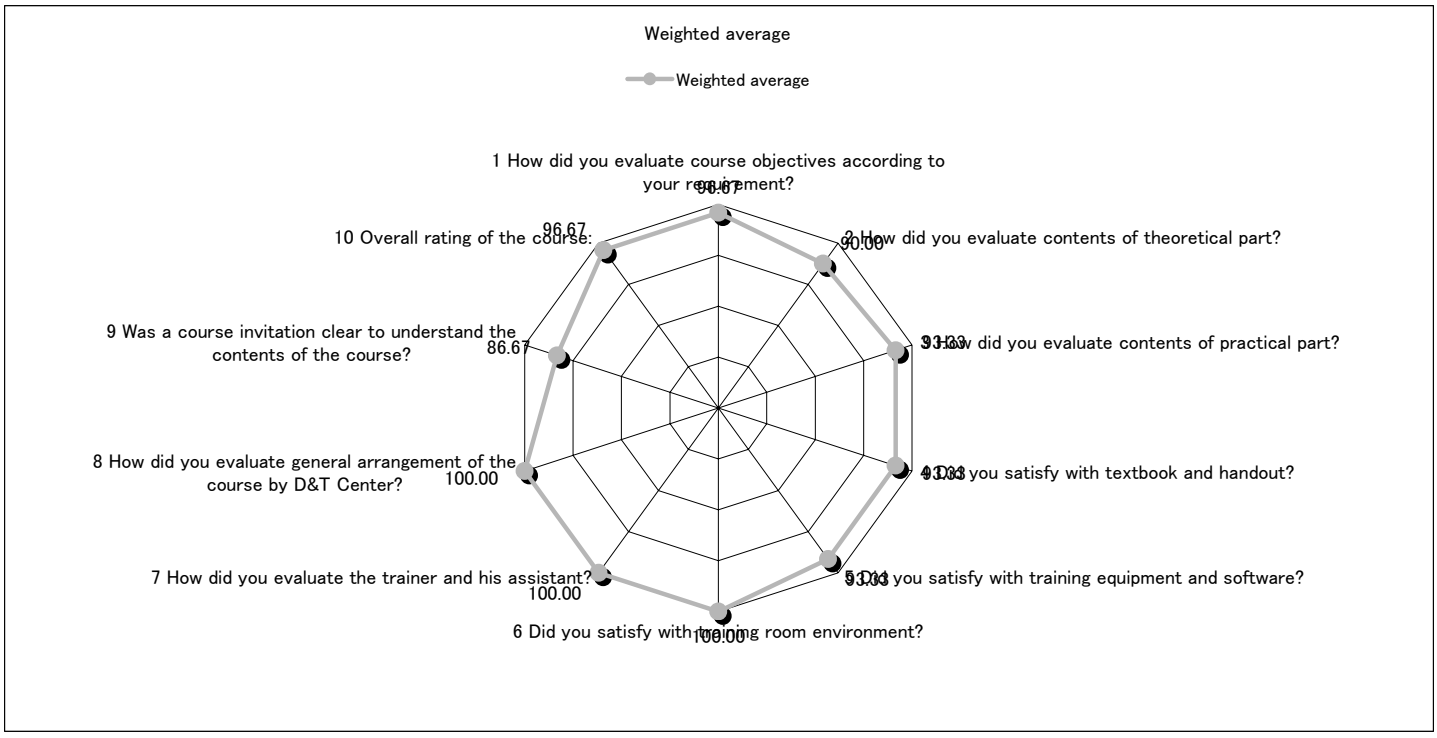
2007/12/08 - 2007/12/12

| | | Very Good | Good | Fair | Poor | Very Poor | Weighted average |
|---|---|---|---|---|---|---|---|
| **1** | How did you evaluate **course objectives** according to your requirement? | 5 | 1 | 0 | 0 | 0 | 96.67 |
| **2** | How did you evaluate **contents of theoretical part**? | 4 | 1 | 1 | 0 | 0 | 90.00 |
| **3** | How did you evaluate **contents of practical part**? | 4 | 2 | 0 | 0 | 0 | 93.33 |
| **4** | Did you satisfy with **textbook and handout**? | 4 | 2 | 0 | 0 | 0 | 93.33 |
| **5** | Did you satisfy with training **equipment and software**? | 4 | 2 | 0 | 0 | 0 | 93.33 |
| **6** | Did you satisfy with **training room** environment? | 6 | 0 | 0 | 0 | 0 | 100.00 |
| **7** | How did you evaluate the **trainer** and his assistant? | 6 | 0 | 0 | 0 | 0 | 100.00 |
| **8** | How did you evaluate **general arrangement** of the course by D&T Center? | 6 | 0 | 0 | 0 | 0 | 100.00 |
| **9** | Was a **course invitation** clear to understand the contents of the course? | 3 | 2 | 1 | 0 | 0 | 86.67 |
| **10** | **Overall rating** of the course: | 5 | 1 | 0 | 0 | 0 | 96.67 |
| | | | | | | **Average (in 100%)** | **95.00** |

| | | Good | | Too short | | Too long | |
|---|---|---|---|---|---|---|---|
| **11** | Was the **lecture hour** of the theory appropriate? | 4 | | 2 | | 0 | |
| **12** | Was the **exercise hour** of the practice appropriate? | 4 | | 2 | | 0 | |
| **13** | Was the **length of the training** appropriate? | 4 | | 2 | | 0 | |

| | | Yes | | Too late | | Too early | |
|---|---|---|---|---|---|---|---|
| **14** | Did you receive a **course invitation** at an appropriate time? | 2 | | 4 | | 0 | |

| | | Yes, very much | | Yes, some part | | Nothing | |
|---|---|---|---|---|---|---|---|
| **15** | Do you **utilize theoretical part** of the training to your class in the college? | 3 | | 3 | | 0 | 80.00 |
| **16** | Do you **utilize practical part** of the training to your class in the college? | 2 | | 2 | | 2 | 60.00 |
| **17** | Do you **recommend the training equipment/software** which was used in the course to college management to purchase? | 6 | | 0 | | 0 | 100.00 |



## Mechanical Training Course Evaluation (Result)

**Laser Cutting**

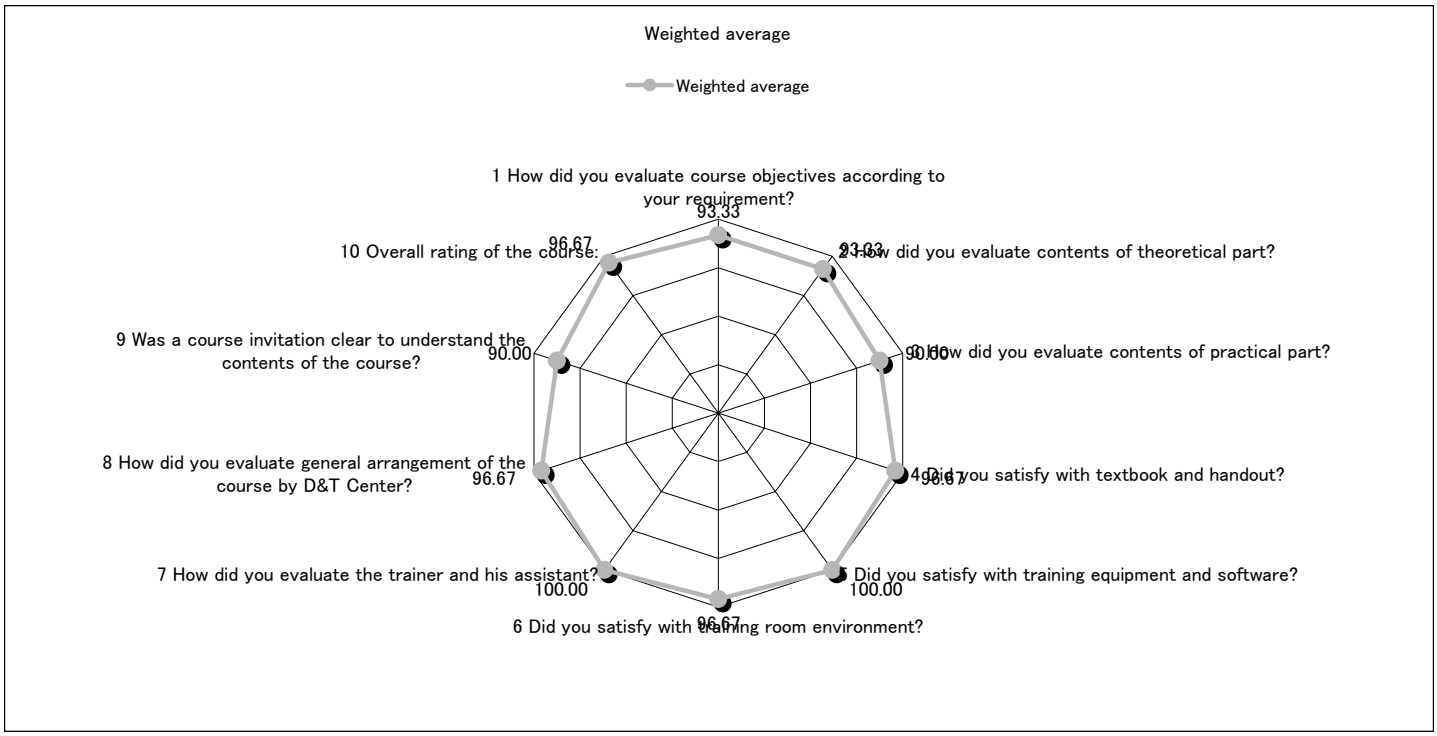
2008/10/25 - 2008/10/29

| | | Very Good | Good | Fair | Poor | Very Poor | Weighted average |
|---|---|---|---|---|---|---|---|
| **1** | How did you evaluate **course objectives** according to your requirement? | 4 | 2 | 0 | 0 | 0 | 93.33 |
| **2** | How did you evaluate **contents of theoretical part**? | 4 | 2 | 0 | 0 | 0 | 93.33 |
| **3** | How did you evaluate **contents of practical part**? | 4 | 1 | 1 | 0 | 0 | 90.00 |
| **4** | Did you satisfy with **textbook and handout**? | 5 | 1 | 0 | 0 | 0 | 96.67 |
| **5** | Did you satisfy with training **equipment and software**? | 6 | 0 | 0 | 0 | 0 | 100.00 |
| **6** | Did you satisfy with **training room** environment? | 5 | 1 | 0 | 0 | 0 | 96.67 |
| **7** | How did you evaluate the **trainer** and his assistant? | 6 | 0 | 0 | 0 | 0 | 100.00 |
| **8** | How did you evaluate **general arrangement** of the course by D&T Center? | 5 | 1 | 0 | 0 | 0 | 96.67 |
| **9** | Was a **course invitation** clear to understand the contents of the course? | 4 | 1 | 1 | 0 | 0 | 90.00 |
| **10** | **Overall rating** of the course: | 5 | 1 | 0 | 0 | 0 | 96.67 |
| | | | | | | **Average (in 100%)** | **95.33** |

| | | Good | | Too short | | Too long | |
|---|---|---|---|---|---|---|---|
| **11** | Was the **lecture hour** of the theory appropriate? | 0 | | 6 | | 0 | |
| **12** | Was the **exercise hour** of the practice appropriate? | 0 | | 6 | | 0 | |
| **13** | Was the **length of the training** appropriate? | 0 | | 6 | | 0 | |

| | | Yes | | Too late | | Too early | |
|---|---|---|---|---|---|---|---|
| **14** | Did you receive a **course invitation** at an appropriate time? | 1 | | 5 | | 0 | |

| | | Yes, very much | | Yes, some part | | Nothing | |
|---|---|---|---|---|---|---|---|
| **15** | Do you **utilize theoretical part** of the training to your class in the college? | 4 | | 2 | | 0 | 86.67 |
| **16** | Do you **utilize practical part** of the training to your class in the college? | 4 | | 2 | | 0 | 86.67 |
| **17** | Do you **recommend the training equipment/software** which was used in the course to college management to purchase? | 6 | | 0 | | 0 | 100.00 |



# Electric Training Course Evaluation (Result)

## PLC Basic (LOGO!)

2007/8/25 - 2007/8/29

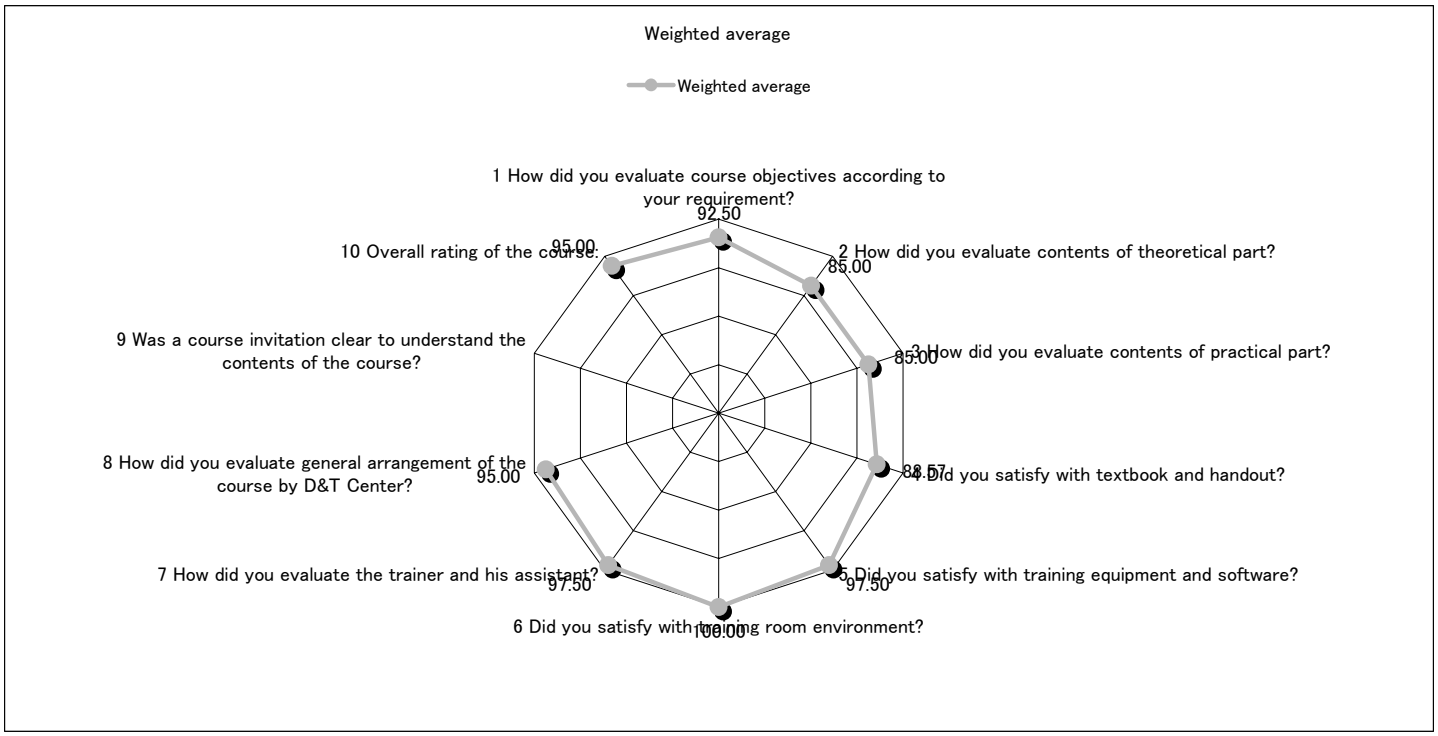
*According to an old format of questionnaire

| | | Very Good | Good | Fair | Poor | Very Poor | Weighted average |
|---|---|---|---|---|---|---|---|
| **1** | How did you evaluate **course objectives** according to your requirement? | 5 | 3 | 0 | 0 | 0 | 92.50 |
| **2** | How did you evaluate **contents of theoretical part**? | 4 | 2 | 2 | 0 | 0 | 85.00 |
| **3** | How did you evaluate **contents of practical part**? | 4 | 2 | 2 | 0 | 0 | 85.00 |
| **4** | Did you satisfy with **textbook and handout**? | 4 | 2 | 1 | 0 | 0 | 88.57 |
| **5** | Did you satisfy with training **equipment and software**? | 7 | 1 | 0 | 0 | 0 | 97.50 |
| **6** | Did you satisfy with **training room** environment? | 8 | 0 | 0 | 0 | 0 | 100.00 |
| **7** | How did you evaluate the **trainer** and his assistant? | 7 | 1 | 0 | 0 | 0 | 97.50 |
| **8** | How did you evaluate **general arrangement** of the course by D&T Center? | 6 | 2 | 0 | 0 | 0 | 95.00 |
| **9** | Was a **course invitation** clear to understand the contents of the course? | | | | | | |
| **10** | **Overall rating** of the course: | 6 | 2 | 0 | 0 | 0 | 95.00 |
| | | | | | | **Average (in 100%)** | **92.90** |

| | | Good | | Too short | | Too long | |
|---|---|---|---|---|---|---|---|
| **11** | Was the **lecture hour** of the theory appropriate? | | | | | | |
| **12** | Was the **exercise hour** of the practice appropriate? | | | | | | |
| **13** | Was the **length of the training** appropriate? | 3 | | 5 | | | |

| | | Yes | | Too late | | Too early | |
|---|---|---|---|---|---|---|---|
| **14** | Did you receive a **course invitation** at an appropriate time? | | | | | | |

| | | Yes, very much | | Yes, some part | | Nothing | |
|---|---|---|---|---|---|---|---|
| **15** | Do you **utilize theoretical part** of the training to your class in the college? | | | | | | |
| **16** | Do you **utilize practical part** of the training to your class in the college? | | | | | | |
| **17** | Do you **recommend the training equipment/software** which was used in the course to college management to purchase? | | 6 | | | 2 | 65.00 |



# Electric Training Course Evaluation (Result)

## PLC Basic (LOGO!)

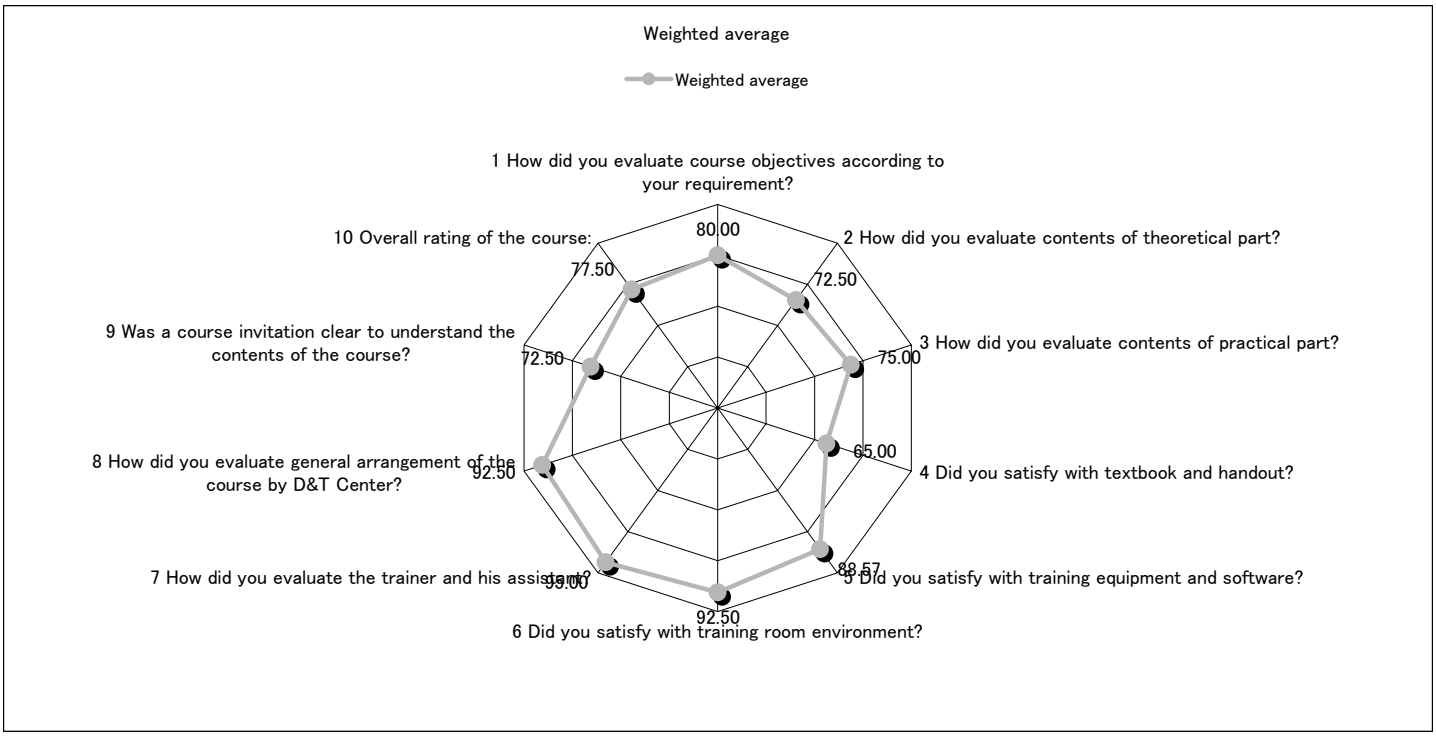
2008/6/07 - 2008/6/11

| | | Very Good | Good | Fair | Poor | Very Poor | Weighted average |
|---|---|---|---|---|---|---|---|
| **1** | How did you evaluate **course objectives** according to your requirement? | 2 | 5 | 0 | 1 | 0 | 80.00 |
| **2** | How did you evaluate **contents of theoretical part**? | 1 | 5 | 0 | 2 | 0 | 72.50 |
| **3** | How did you evaluate **contents of practical part**? | 2 | 3 | 2 | 1 | 0 | 75.00 |
| **4** | Did you satisfy with **textbook and handout**? | 1 | 4 | 1 | 0 | 2 | 65.00 |
| **5** | Did you satisfy with training **equipment and software**? | 3 | 4 | 0 | 0 | 0 | 88.57 |
| **6** | Did you satisfy with **training room** environment? | 5 | 3 | 0 | 0 | 0 | 92.50 |
| **7** | How did you evaluate the **trainer** and his assistant? | 6 | 2 | 0 | 0 | 0 | 95.00 |
| **8** | How did you evaluate **general arrangement** of the course by D&T Center? | 5 | 3 | 0 | 0 | 0 | 92.50 |
| **9** | Was a **course invitation** clear to understand the contents of the course? | 2 | 4 | 0 | 1 | 1 | 72.50 |
| **10** | **Overall rating** of the course: | 2 | 4 | 1 | 1 | 0 | 77.50 |
| | | | | | | **Average (in 100%)** | **81.11** |

| | | Good | | Too short | | Too long | |
|---|---|---|---|---|---|---|---|
| **11** | Was the **lecture hour** of the theory appropriate? | 5 | | 1 | | 2 | |
| **12** | Was the **exercise hour** of the practice appropriate? | 6 | | 1 | | 1 | |
| **13** | Was the **length of the training** appropriate? | 3 | | 5 | | 0 | |

| | | Yes | | Too late | | Too early | |
|---|---|---|---|---|---|---|---|
| **14** | Did you receive a **course invitation** at an appropriate time? | 5 | | 2 | | 1 | |

| | | Yes, very much | | Yes, some part | | Nothing | |
|---|---|---|---|---|---|---|---|
| **15** | Do you **utilize theoretical part** of the training to your class in the college? | 1 | | 4 | | 2 | 54.29 |
| **16** | Do you **utilize practical part** of the training to your class in the college? | 1 | | 4 | | 2 | 54.29 |
| **17** | Do you **recommend the training equipment/software** which was used in the course to college management to purchase? | 4 | | 1 | | 3 | 65.00 |



## Electric Training Course Evaluation (Result)

### Power Electronics (2)

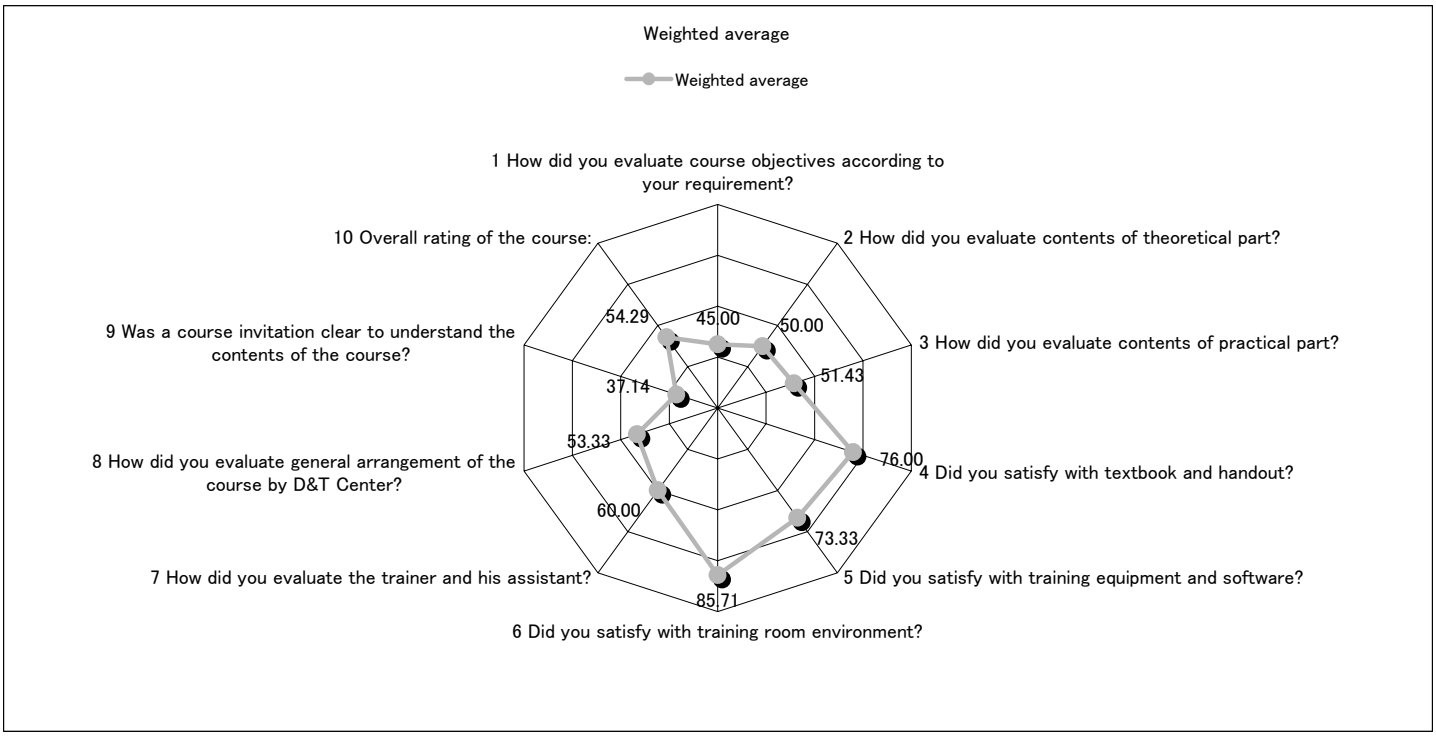
2008/5/03 - 2008/5/07

| | | Very Good | Good | Fair | Poor | Very Poor | Weighted average |
|---|---|---|---|---|---|---|---|
| **1** | How did you evaluate **course objectives** according to your requirement? | 1 | 0 | 2 | 2 | 3 | 45.00 |
| **2** | How did you evaluate **contents of theoretical part**? | 1 | 1 | 2 | 1 | 3 | 50.00 |
| **3** | How did you evaluate **contents of practical part**? | 1 | 1 | 1 | 2 | 2 | 51.43 |
| **4** | Did you satisfy with **textbook and handout**? | 1 | 2 | 2 | 0 | 0 | 76.00 |
| **5** | Did you satisfy with training **equipment and software**? | 3 | 1 | 0 | 1 | 1 | 73.33 |
| **6** | Did you satisfy with **training room** environment? | 3 | 3 | 1 | 0 | 0 | 85.71 |
| **7** | How did you evaluate the **trainer** and his assistant? | 0 | 3 | 2 | 1 | 1 | 60.00 |
| **8** | How did you evaluate **general arrangement** of the course by D&T Center? | 0 | 2 | 2 | 0 | 2 | 53.33 |
| **9** | Was a **course invitation** clear to understand the contents of the course? | 0 | 0 | 2 | 2 | 3 | 37.14 |
| **10** | **Overall rating** of the course: | 0 | 2 | 2 | 2 | 1 | 54.29 |
| | | | | | | **Average (in 100%)** | **58.62** |

| | | Good | | Too short | | Too long | |
|---|---|---|---|---|---|---|---|
| **11** | Was the **lecture hour** of the theory appropriate? | 2 | | 1 | | 4 | |
| **12** | Was the **exercise hour** of the practice appropriate? | 2 | | 4 | | 1 | |
| **13** | Was the **length of the training** appropriate? | 4 | | 1 | | 0 | |

| | | Yes | | Too late | | Too early | |
|---|---|---|---|---|---|---|---|
| **14** | Did you receive a **course invitation** at an appropriate time? | 0 | | 0 | | 0 | |

| | | Yes, very much | | Yes, some part | | Nothing | |
|---|---|---|---|---|---|---|---|
| **15** | Do you **utilize theoretical part** of the training to your class in the college? | 0 | | 3 | | 3 | 40.00 |
| **16** | Do you **utilize practical part** of the training to your class in the college? | 1 | | 3 | | 2 | 53.33 |
| **17** | Do you **recommend the training equipment/software** which was used in the course to college management to purchase? | 0 | | 3 | | 2 | 44.00 |



# Electric Training Course Evaluation (Result)

## Automatic Control (1)

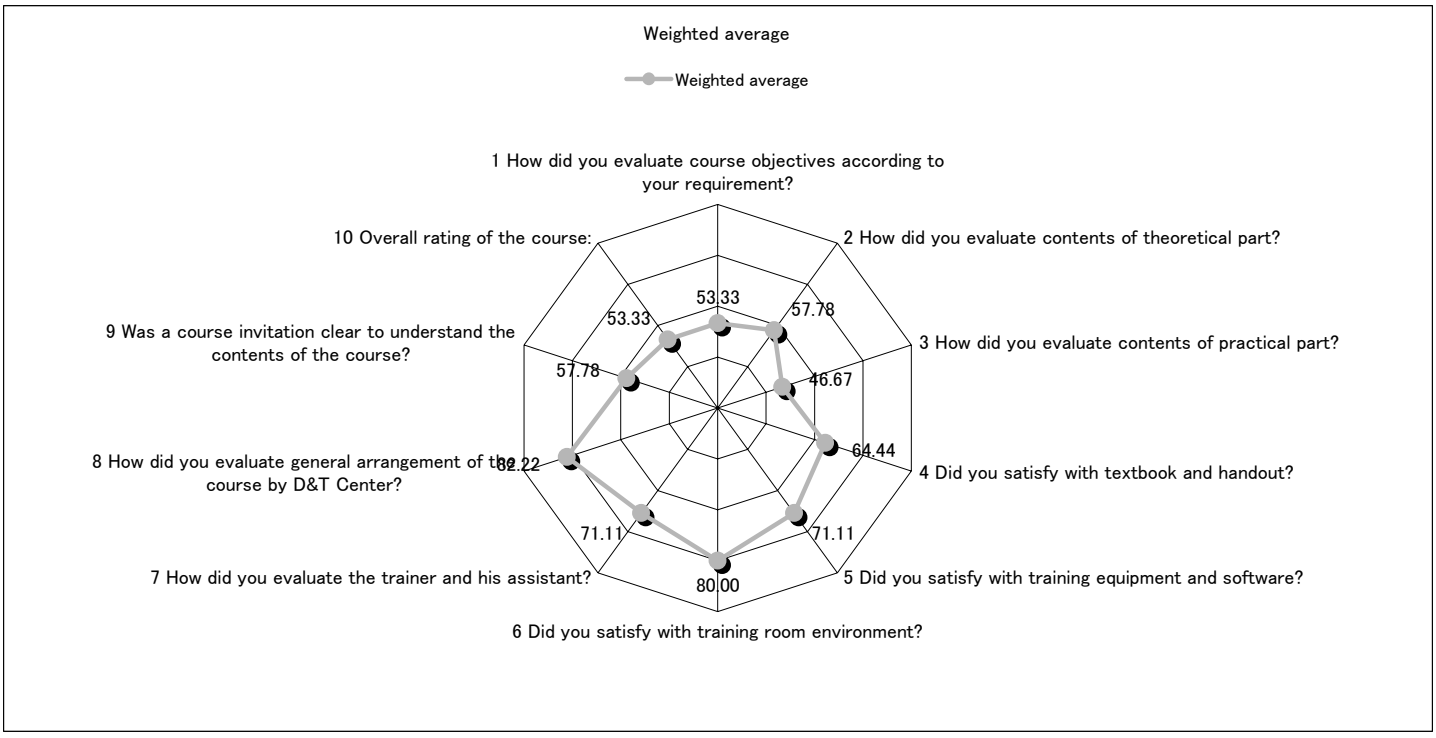
2008/10/18 - 2008/10/22

| | | Very Good | Good | Fair | Poor | Very Poor | Weighted average |
|---|---|---|---|---|---|---|---|
| **1** | How did you evaluate **course objectives** according to your requirement? | 0 | 2 | 2 | 5 | 0 | 53.33 |
| **2** | How did you evaluate **contents of theoretical part**? | 0 | 4 | 2 | 1 | 2 | 57.78 |
| **3** | How did you evaluate **contents of practical part**? | 0 | 0 | 5 | 2 | 2 | 46.67 |
| **4** | Did you satisfy with **textbook and handout**? | 0 | 5 | 2 | 1 | 1 | 64.44 |
| **5** | Did you satisfy with training **equipment and software**? | 1 | 4 | 3 | 1 | 0 | 71.11 |
| **6** | Did you satisfy with **training room** environment? | 1 | 7 | 1 | 0 | 0 | 80.00 |
| **7** | How did you evaluate the **trainer** and his assistant? | 0 | 5 | 4 | 0 | 0 | 71.11 |
| **8** | How did you evaluate **general arrangement** of the course by D&T Center? | 3 | 5 | 0 | 1 | 0 | 82.22 |
| **9** | Was a **course invitation** clear to understand the contents of the course? | 0 | 4 | 1 | 3 | 1 | 57.78 |
| **10** | **Overall rating** of the course: | 0 | 1 | 4 | 4 | 0 | 53.33 |
| | | | | | | **Average (in 100%)** | **63.78** |

| | | Good | | Too short | | Too long | |
|---|---|---|---|---|---|---|---|
| **11** | Was the **lecture hour** of the theory appropriate? | 0 | | 7 | | 2 | |
| **12** | Was the **exercise hour** of the practice appropriate? | 0 | | 9 | | 0 | |
| **13** | Was the **length of the training** appropriate? | 1 | | 6 | | 2 | |

| | | Yes | | Too late | | Too early | |
|---|---|---|---|---|---|---|---|
| **14** | Did you receive a **course invitation** at an appropriate time? | 6 | | 2 | | 1 | |

| | | Yes, very much | | Yes, some part | | Nothing | |
|---|---|---|---|---|---|---|---|
| **15** | Do you **utilize theoretical part** of the training to your class in the college? | 0 | | 2 | | 7 | 28.89 |
| **16** | Do you **utilize practical part** of the training to your class in the college? | 0 | | 2 | | 7 | 28.89 |
| **17** | Do you **recommend the training equipment/software** which was used in the course to college management to purchase? | 1 | | 1 | | 7 | 33.33 |



# Electric Training Course Evaluation (Result)

## Automatic Control (2)

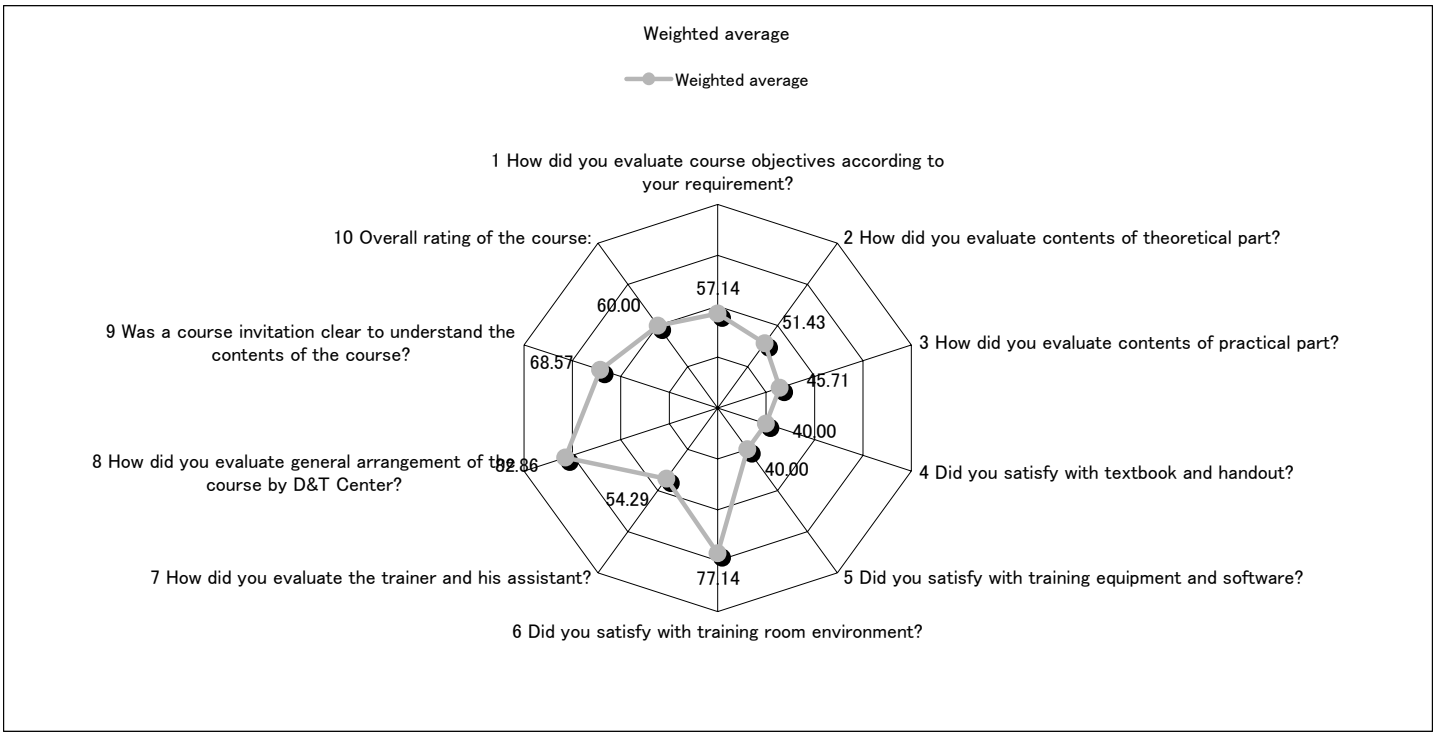
2008/10/25 - 2008/10/29

| | | Very Good | Good | Fair | Poor | Very Poor | Weighted average |
|---|---|---|---|---|---|---|---|
| **1** | How did you evaluate **course objectives** according to your requirement? | 0 | 3 | 1 | 2 | 1 | 57.14 |
| **2** | How did you evaluate **contents of theoretical part**? | 0 | 1 | 2 | 4 | 0 | 51.43 |
| **3** | How did you evaluate **contents of practical part**? | 0 | 0 | 3 | 3 | 1 | 45.71 |
| **4** | Did you satisfy with **textbook and handout**? | 0 | 0 | 2 | 3 | 2 | 40.00 |
| **5** | Did you satisfy with training **equipment and software**? | 0 | 0 | 3 | 1 | 3 | 40.00 |
| **6** | Did you satisfy with **training room** environment? | 2 | 3 | 1 | 1 | 0 | 77.14 |
| **7** | How did you evaluate the **trainer** and his assistant? | 0 | 1 | 3 | 3 | 0 | 54.29 |
| **8** | How did you evaluate **general arrangement** of the course by D&T Center? | 1 | 6 | 0 | 0 | 0 | 82.86 |
| **9** | Was a **course invitation** clear to understand the contents of the course? | 1 | 3 | 2 | 0 | 1 | 68.57 |
| **10** | **Overall rating** of the course: | 0 | 2 | 3 | 2 | 0 | 60.00 |
| | | | | | | **Average (in 100%)** | **57.71** |

| | | Good | | Too short | | Too long | |
|---|---|---|---|---|---|---|---|
| **11** | Was the **lecture hour** of the theory appropriate? | 5 | | 2 | | 0 | |
| **12** | Was the **exercise hour** of the practice appropriate? | 3 | | 4 | | 0 | |
| **13** | Was the **length of the training** appropriate? | 3 | | 4 | | 0 | |

| | | Yes | | Too late | | Too early | |
|---|---|---|---|---|---|---|---|
| **14** | Did you receive a **course invitation** at an appropriate time? | 2 | | 5 | | 0 | |

| | | Yes, very much | | Yes, some part | | Nothing | |
|---|---|---|---|---|---|---|---|
| **15** | Do you **utilize theoretical part** of the training to your class in the college? | 0 | | 2 | | 5 | 31.43 |
| **16** | Do you **utilize practical part** of the training to your class in the college? | 0 | | 2 | | 5 | 31.43 |
| **17** | Do you **recommend the training equipment/software** which was used in the course to college management to purchase? | 0 | | 1 | | 6 | 25.71 |



# Electric Training Course Evaluation (Result)

## Automatic Control (3)

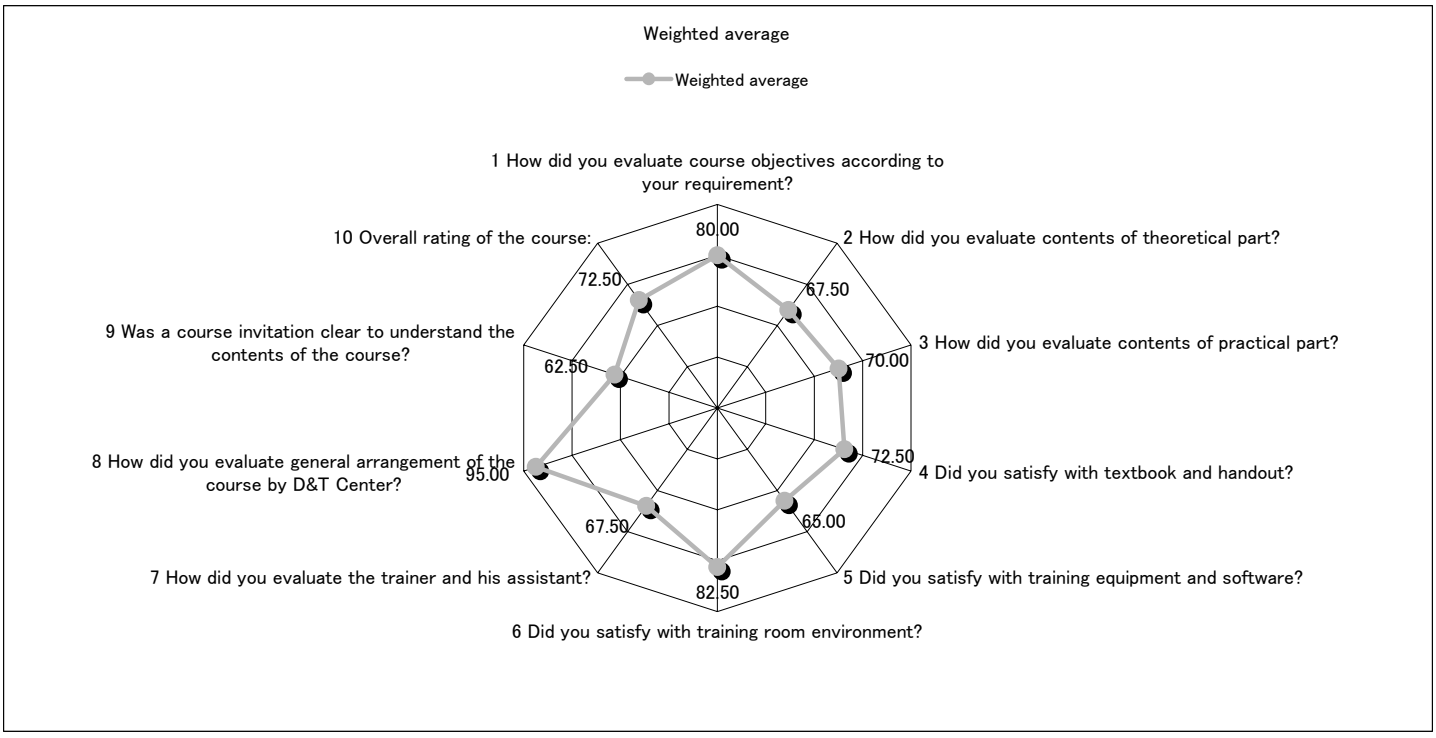
2008/11/01 - 2008/11/05

| | | Very Good | Good | Fair | Poor | Very Poor | Weighted average |
|---|---|---|---|---|---|---|---|
| **1** | How did you evaluate **course objectives** according to your requirement? | 1 | 6 | 1 | 0 | 0 | 80.00 |
| **2** | How did you evaluate **contents of theoretical part**? | 0 | 5 | 1 | 2 | 0 | 67.50 |
| **3** | How did you evaluate **contents of practical part**? | 1 | 4 | 1 | 2 | 0 | 70.00 |
| **4** | Did you satisfy with **textbook and handout**? | 0 | 5 | 3 | 0 | 0 | 72.50 |
| **5** | Did you satisfy with training **equipment and software**? | 1 | 4 | 0 | 2 | 1 | 65.00 |
| **6** | Did you satisfy with **training room** environment? | 3 | 3 | 2 | 0 | 0 | 82.50 |
| **7** | How did you evaluate the **trainer** and his assistant? | 0 | 6 | 0 | 1 | 1 | 67.50 |
| **8** | How did you evaluate **general arrangement** of the course by D&T Center? | 7 | 0 | 1 | 0 | 0 | 95.00 |
| **9** | Was a **course invitation** clear to understand the contents of the course? | 1 | 2 | 2 | 3 | 0 | 62.50 |
| **10** | **Overall rating** of the course: | 1 | 5 | 1 | 0 | 1 | 72.50 |
| | | | | | | **Average (in 100%)** | **73.50** |

| | | Good | | Too short | | Too long | |
|---|---|---|---|---|---|---|---|
| **11** | Was the **lecture hour** of the theory appropriate? | 7 | | 1 | | 0 | |
| **12** | Was the **exercise hour** of the practice appropriate? | 6 | | 2 | | 0 | |
| **13** | Was the **length of the training** appropriate? | 6 | | 2 | | 0 | |

| | | Yes | | Too late | | Too early | |
|---|---|---|---|---|---|---|---|
| **14** | Did you receive a **course invitation** at an appropriate time? | 6 | | 2 | | 0 | |

| | | Yes, very much | | Yes, some part | | Nothing | |
|---|---|---|---|---|---|---|---|
| **15** | Do you **utilize theoretical part** of the training to your class in the college? | 2 | | 5 | | 1 | 65.00 |
| **16** | Do you **utilize practical part** of the training to your class in the college? | 2 | | 5 | | 1 | 65.00 |
| **17** | Do you **recommend the training equipment/software** which was used in the course to college management to purchase? | 2 | | 0 | | 6 | 40.00 |



# Electric Training Course Evaluation (Result)

## Mechatronics (1) PLC

2007/9/01 - 2007/9/05

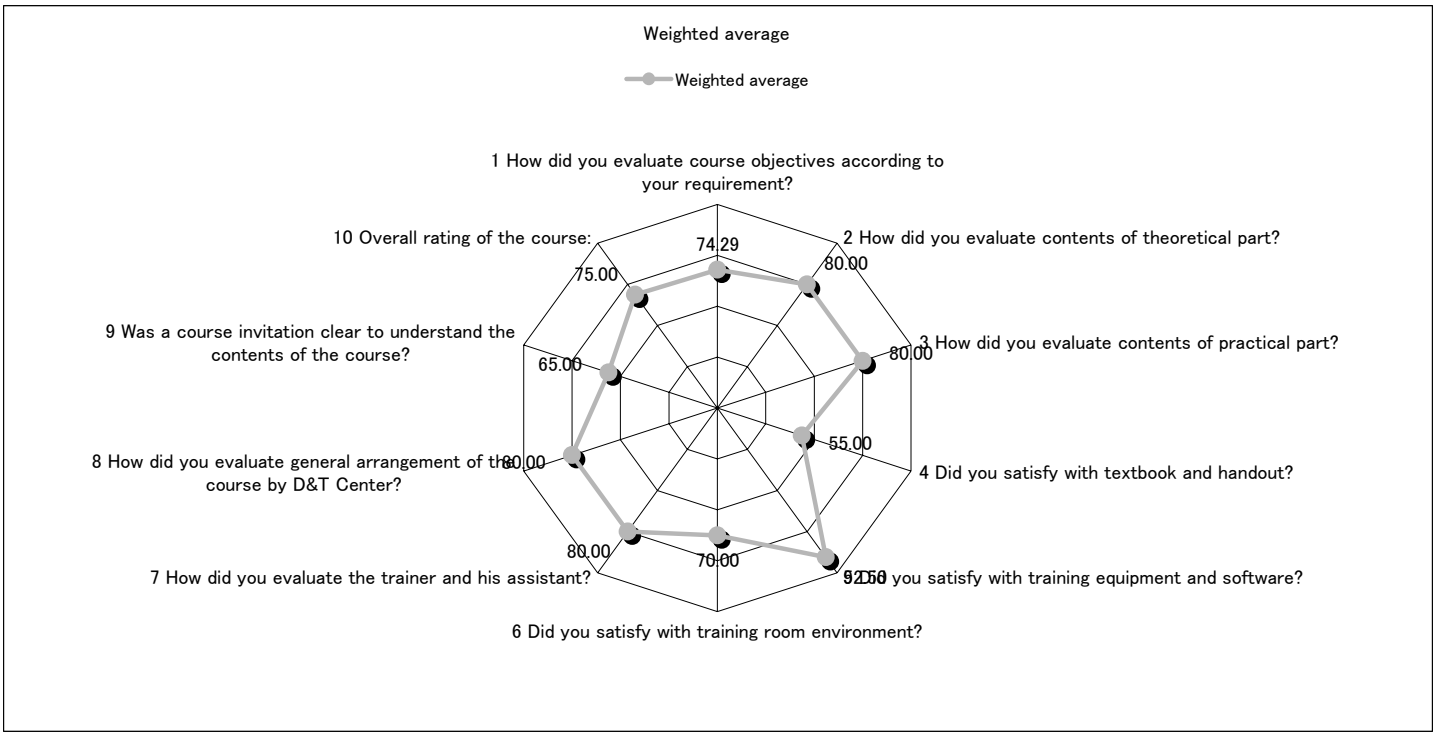
*According to an old format of questionnaire

| | | Very Good | Good | Fair | Poor | Very Poor | Weighted average |
|---|---|---|---|---|---|---|---|
| **1** | How did you evaluate **course objectives** according to your requirement? | 2 | 3 | 0 | 2 | 0 | 74.29 |
| **2** | How did you evaluate **contents of theoretical part**? | 3 | 2 | 3 | 0 | 0 | 80.00 |
| **3** | How did you evaluate **contents of practical part**? | 3 | 2 | 3 | 0 | 0 | 80.00 |
| **4** | Did you satisfy with **textbook and handout**? | 2 | 1 | 1 | 1 | 3 | 55.00 |
| **5** | Did you satisfy with training **equipment and software**? | 6 | 1 | 1 | 0 | 0 | 92.50 |
| **6** | Did you satisfy with **training room** environment? | 1 | 3 | 3 | 1 | 0 | 70.00 |
| **7** | How did you evaluate the **trainer** and his assistant? | 3 | 3 | 1 | 1 | 0 | 80.00 |
| **8** | How did you evaluate **general arrangement** of the course by D&T Center? | 5 | 1 | 0 | 1 | 1 | 80.00 |
| **9** | Was a **course invitation** clear to understand the contents of the course? | 0 | 5 | 0 | 3 | 0 | 65.00 |
| **10** | **Overall rating** of the course: | 2 | 4 | 1 | 0 | 1 | 75.00 |
| | | | | | | **Average (in 100%)** | **75.18** |

| | | Good | | Too short | | Too long | |
|---|---|---|---|---|---|---|---|
| **11** | Was the **lecture hour** of the theory appropriate? | | | | | | |
| **12** | Was the **exercise hour** of the practice appropriate? | | | | | | |
| **13** | Was the **length of the training** appropriate? | 6 | | 2 | | 0 | |

| | | Yes | | Too late | | Too early | |
|---|---|---|---|---|---|---|---|
| **14** | Did you receive a **course invitation** at an appropriate time? | 6 | | 2 | | | |

| | | Yes, very much | | Yes, some part | | Nothing | |
|---|---|---|---|---|---|---|---|
| **15** | Do you **utilize theoretical part** of the training to your class in the college? | | | | | | |
| **16** | Do you **utilize practical part** of the training to your class in the college? | | | | | | |
| **17** | Do you **recommend the training equipment/software** which was used in the course to college management to purchase? | | 6 | | | 2 | 65.00 |



# Electric Training Course Evaluation (Result)

## Mechatronics (2) Robotics

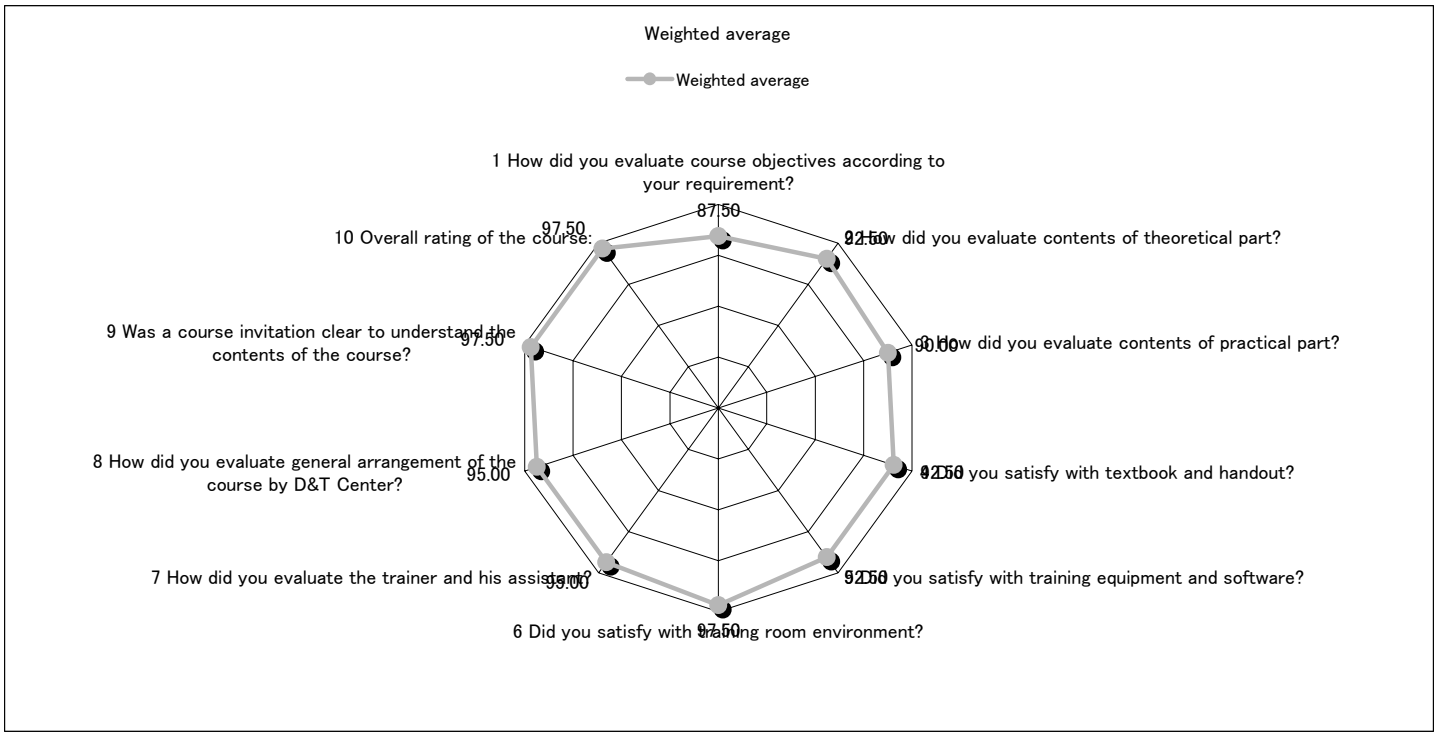
2008/4/05 - 2008/4/09

| | | Very Good | Good | Fair | Poor | Very Poor | Weighted average |
|---|---|---|---|---|---|---|---|
| **1** | How did you evaluate **course objectives** according to your requirement? | 3 | 5 | 0 | 0 | 0 | 87.50 |
| **2** | How did you evaluate **contents of theoretical part**? | 5 | 3 | 0 | 0 | 0 | 92.50 |
| **3** | How did you evaluate **contents of practical part**? | 4 | 4 | 0 | 0 | 0 | 90.00 |
| **4** | Did you satisfy with **textbook and handout**? | 5 | 3 | 0 | 0 | 0 | 92.50 |
| **5** | Did you satisfy with training **equipment and software**? | 5 | 3 | 0 | 0 | 0 | 92.50 |
| **6** | Did you satisfy with **training room** environment? | 7 | 1 | 0 | 0 | 0 | 97.50 |
| **7** | How did you evaluate the **trainer** and his assistant? | 6 | 2 | 0 | 0 | 0 | 95.00 |
| **8** | How did you evaluate **general arrangement** of the course by D&T Center? | 6 | 2 | 0 | 0 | 0 | 95.00 |
| **9** | Was a **course invitation** clear to understand the contents of the course? | 7 | 1 | 0 | 0 | 0 | 97.50 |
| **10** | **Overall rating** of the course: | 7 | 1 | 0 | 0 | 0 | 97.50 |
| | | | | | | **Average (in 100%)** | **93.75** |

| | | Good | | Too short | | Too long | |
|---|---|---|---|---|---|---|---|
| **11** | Was the **lecture hour** of the theory appropriate? | 7 | | 1 | | 0 | |
| **12** | Was the **exercise hour** of the practice appropriate? | 7 | | 1 | | 0 | |
| **13** | Was the **length of the training** appropriate? | 3 | | 5 | | 0 | |

| | | Yes | | Too late | | Too early | |
|---|---|---|---|---|---|---|---|
| **14** | Did you receive a **course invitation** at an appropriate time? | 7 | | 1 | | 0 | |

| | | Yes, very much | | Yes, some part | | Nothing | |
|---|---|---|---|---|---|---|---|
| **15** | Do you **utilize theoretical part** of the training to your class in the college? | 3 | | 2 | | 1 | 73.33 |
| **16** | Do you **utilize practical part** of the training to your class in the college? | 3 | | 2 | | 1 | 73.33 |
| **17** | Do you **recommend the training equipment/software** which was used in the course to college management to purchase? | 4 | | 2 | | 0 | 86.67 |



Electric Training Course Evaluation (Result)

**Industrial Automation & Drive System** by Dr. Morita (JICA Short-term Expert)

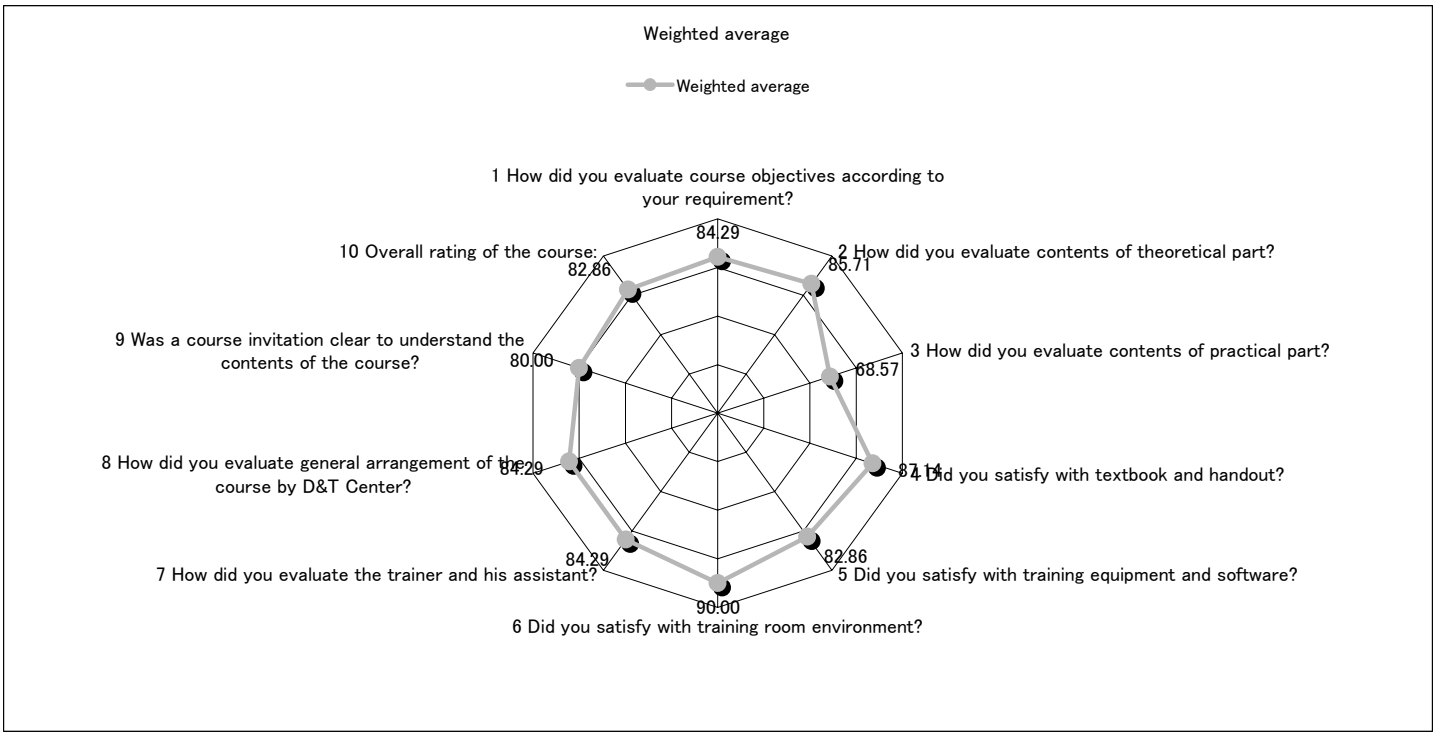
2008/11/03 - 2008/11/07

| | | Very Good | Good | Fair | Poor | Very Poor | Weighted average |
|---|---|---|---|---|---|---|---|
| **1** | How did you evaluate **course objectives** according to your requirement? | 5 | 7 | 2 | 0 | 0 | 84.29 |
| **2** | How did you evaluate **contents of theoretical part**? | 4 | 10 | 0 | 0 | 0 | 85.71 |
| **3** | How did you evaluate **contents of practical part**? | 1 | 6 | 5 | 2 | 0 | 68.57 |
| **4** | Did you satisfy with **textbook and handout**? | 6 | 7 | 1 | 0 | 0 | 87.14 |
| **5** | Did you satisfy with training **equipment and software**? | 3 | 10 | 1 | 0 | 0 | 82.86 |
| **6** | Did you satisfy with **training room** environment? | 9 | 3 | 2 | 0 | 0 | 90.00 |
| **7** | How did you evaluate the **trainer** and his assistant? | 5 | 7 | 2 | 0 | 0 | 84.29 |
| **8** | How did you evaluate **general arrangement** of the course by D&T Center? | 5 | 7 | 2 | 0 | 0 | 84.29 |
| **9** | Was a **course invitation** clear to understand the contents of the course? | 4 | 7 | 2 | 1 | 0 | 80.00 |
| **10** | **Overall rating** of the course: | 2 | 12 | 0 | 0 | 0 | 82.86 |
| | | | | | | **Average (in 100%)** | **83.00** |

| | | Good | | Too short | | Too long | |
|---|---|---|---|---|---|---|---|
| **11** | Was the **lecture hour** of the theory appropriate? | 7 | | 6 | | 1 | |
| **12** | Was the **exercise hour** of the practice appropriate? | 5 | | 8 | | 1 | |
| **13** | Was the **length of the training** appropriate? | 7 | | 7 | | 0 | |

| | | Yes | | Too late | | Too early | |
|---|---|---|---|---|---|---|---|
| **14** | Did you receive a **course invitation** at an appropriate time? | 13 | | 1 | | 0 | |

| | | Yes, very much | | Yes, some part | | Nothing | |
|---|---|---|---|---|---|---|---|
| **15** | Do you **utilize theoretical part** of the training to your class in the college? | 2 | | 10 | | 2 | 60.00 |
| **16** | Do you **utilize practical part** of the training to your class in the college? | 2 | | 11 | | 1 | 62.86 |
| **17** | Do you **recommend the training equipment/software** which was used in the course to college management to purchase? | 2 | | 8 | | 4 | 54.29 |



## Construction Training Course Evaluation (Result)

**3D CAD (AutoCAD Architecture 2008)** By Dr. Homma (JICA Short-term Expert)

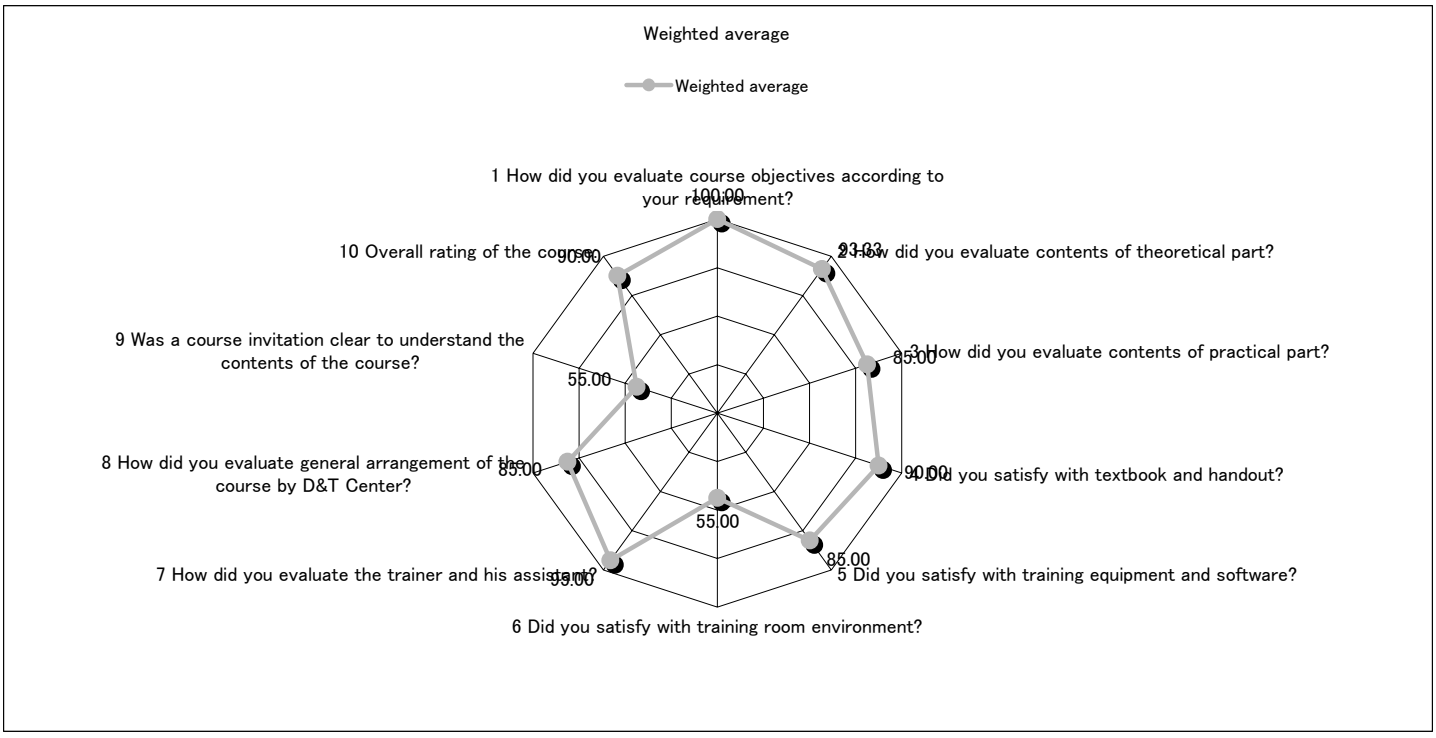
2007/11/03 - 2007/11/07

| | | Very Good | Good | Fair | Poor | Very Poor | Weighted average |
|---|---|---|---|---|---|---|---|
| **1** | How did you evaluate **course objectives** according to your requirement? | 3 | 0 | 0 | 0 | 0 | 100.00 |
| **2** | How did you evaluate **contents of theoretical part**? | 2 | 1 | 0 | 0 | 0 | 93.33 |
| **3** | How did you evaluate **contents of practical part**? | 1 | 3 | 0 | 0 | 0 | 85.00 |
| **4** | Did you satisfy with **textbook and handout**? | 2 | 2 | 0 | 0 | 0 | 90.00 |
| **5** | Did you satisfy with training **equipment and software**? | 1 | 3 | 0 | 0 | 0 | 85.00 |
| **6** | Did you satisfy with **training room** environment? | 0 | 1 | 1 | 2 | 0 | 55.00 |
| **7** | How did you evaluate the **trainer** and his assistant? | 3 | 1 | 0 | 0 | 0 | 95.00 |
| **8** | How did you evaluate **general arrangement** of the course by D&T Center? | 1 | 3 | 0 | 0 | 0 | 85.00 |
| **9** | Was a **course invitation** clear to understand the contents of the course? | 0 | 1 | 1 | 2 | 0 | 55.00 |
| **10** | **Overall rating** of the course: | 2 | 2 | 0 | 0 | 0 | 90.00 |
| | | | | | | **Average (in 100%)** | **83.33** |

| | | Good | | Too short | | Too long | |
|---|---|---|---|---|---|---|---|
| **1** | Was the **lecture hour** of the theory appropriate? | 1 | | 3 | | 0 | |
| **2** | Was the **exercise hour** of the practice appropriate? | 1 | | 3 | | 1 | |
| **3** | Was the **length of the training** appropriate? | 0 | | 4 | | 0 | |

| | | Yes | | Too late | | Too early | |
|---|---|---|---|---|---|---|---|
| **4** | Did you receive a **course invitation** at an appropriate time? | 4 | | 0 | | 0 | |

| | | Yes, very much | | Yes, some part | | Nothing | |
|---|---|---|---|---|---|---|---|
| **5** | Do you **utilize theoretical part** of the training to your class in the college? | 4 | | 0 | | 0 | 100.00 |
| **6** | Do you **utilize practical part** of the training to your class in the college? | 0 | | 3 | | 1 | 50.00 |
| **7** | Do you **recommend the training equipment/software** which was used in the course to college management to purchase? | 4 | | 0 | | 0 | 100.00 |



## Construction Training Course Evaluation (Result)

### 3D CAD (AutoCAD Architecture 2008)

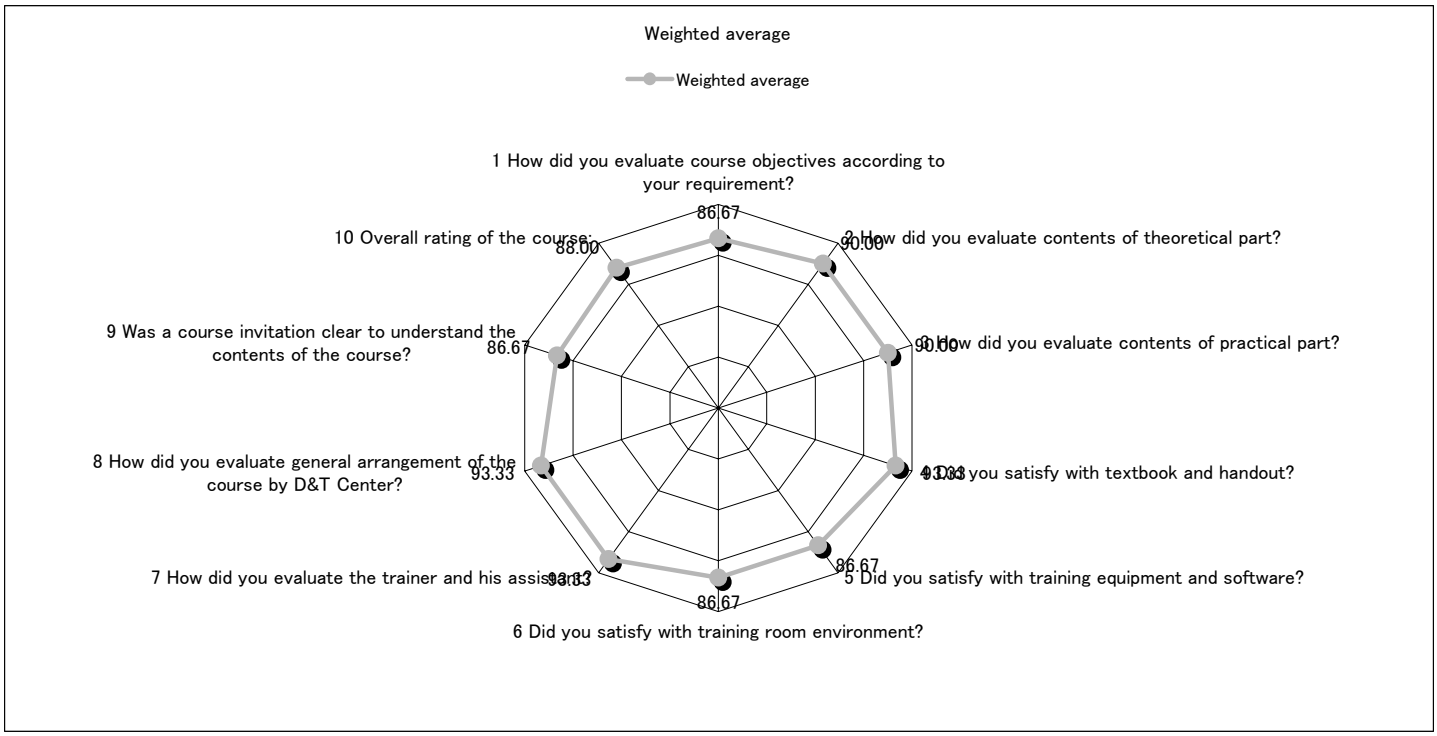
2008/11/08 - 2008/11/12

| | | Very Good | Good | Fair | Poor | Very Poor | Weighted average |
|---|---|---|---|---|---|---|---|
| **1** | How did you evaluate **course objectives** according to your requirement? | 2 | 4 | 0 | 0 | 0 | 86.67 |
| **2** | How did you evaluate **contents of theoretical part**? | 3 | 3 | 0 | 0 | 0 | 90.00 |
| **3** | How did you evaluate **contents of practical part**? | 3 | 3 | 0 | 0 | 0 | 90.00 |
| **4** | Did you satisfy with **textbook and handout**? | 4 | 2 | 0 | 0 | 0 | 93.33 |
| **5** | Did you satisfy with training **equipment and software**? | 2 | 4 | 0 | 0 | 0 | 86.67 |
| **6** | Did you satisfy with **training room** environment? | 2 | 4 | 0 | 0 | 0 | 86.67 |
| **7** | How did you evaluate the **trainer** and his assistant? | 4 | 2 | 0 | 0 | 0 | 93.33 |
| **8** | How did you evaluate **general arrangement** of the course by D&T Center? | 4 | 2 | 0 | 0 | 0 | 93.33 |
| **9** | Was a **course invitation** clear to understand the contents of the course? | 2 | 4 | 0 | 0 | 0 | 86.67 |
| **10** | **Overall rating** of the course: | 2 | 3 | 0 | 0 | 0 | 88.00 |
| | | | | | | **Average (in 100%)** | **89.47** |

| | | Good | | Too short | | Too long | |
|---|---|---|---|---|---|---|---|
| **11** | Was the **lecture hour** of the theory appropriate? | 3 | | 3 | | 0 | |
| **12** | Was the **exercise hour** of the practice appropriate? | 3 | | 2 | | 1 | |
| **13** | Was the **length of the training** appropriate? | 0 | | 6 | | 0 | |

| | | Yes | | Too late | | Too early | |
|---|---|---|---|---|---|---|---|
| **14** | Did you receive a **course invitation** at an appropriate time? | 3 | | 3 | | 0 | |

| | | Yes, very much | | Yes, some part | | Nothing | |
|---|---|---|---|---|---|---|---|
| **15** | Do you **utilize theoretical part** of the training to your class in the college? | 4 | | 1 | | 1 | 80.00 |
| **16** | Do you **utilize practical part** of the training to your class in the college? | 5 | | 1 | | 0 | 93.33 |
| **17** | Do you **recommend the training equipment/software** which was used in the course to college management to purchase? | 4 | | 2 | | 0 | 86.67 |



## Construction Training Course Evaluation (Result)

### 3D CAD (Autodesk Revit)

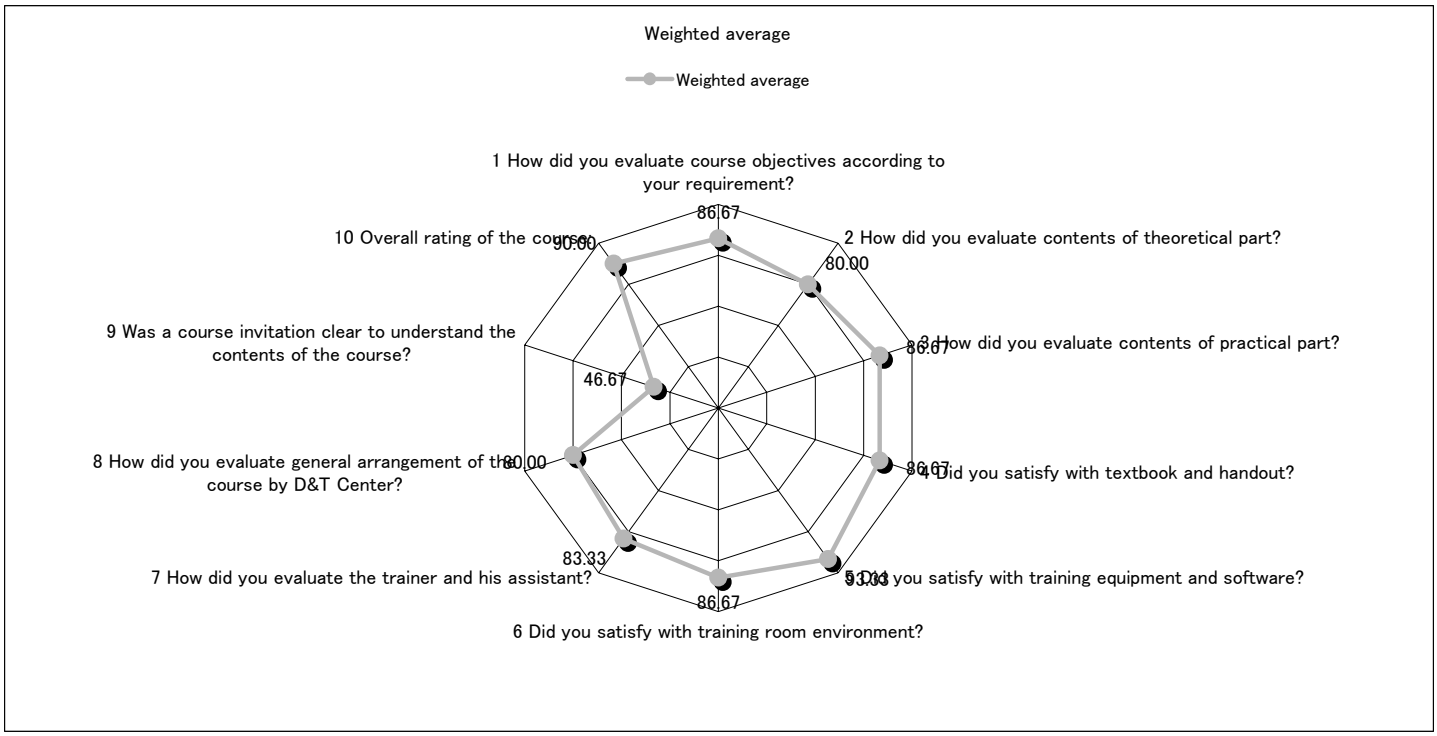
2008/5/17 - 2008/5/21

| | | Very Good | Good | Fair | Poor | Very Poor | Weighted average |
|---|---|---|---|---|---|---|---|
| **1** | How did you evaluate **course objectives** according to your requirement? | 2 | 4 | 0 | 0 | 0 | 86.67 |
| **2** | How did you evaluate **contents of theoretical part**? | 2 | 2 | 2 | 0 | 0 | 80.00 |
| **3** | How did you evaluate **contents of practical part**? | 3 | 2 | 1 | 0 | 0 | 86.67 |
| **4** | Did you satisfy with **textbook and handout**? | 2 | 4 | 0 | 0 | 0 | 86.67 |
| **5** | Did you satisfy with training **equipment and software**? | 4 | 2 | 0 | 0 | 0 | 93.33 |
| **6** | Did you satisfy with **training room** environment? | 2 | 4 | 0 | 0 | 0 | 86.67 |
| **7** | How did you evaluate the **trainer** and his assistant? | 1 | 5 | 0 | 0 | 0 | 83.33 |
| **8** | How did you evaluate **general arrangement** of the course by D&T Center? | 1 | 4 | 1 | 0 | 0 | 80.00 |
| **9** | Was a **course invitation** clear to understand the contents of the course? | 0 | 2 | 1 | 0 | 3 | 46.67 |
| **10** | **Overall rating** of the course: | 3 | 3 | 0 | 0 | 0 | 90.00 |
| | | | | | | **Average (in 100%)** | **82.00** |

| | | Good | | Too short | | Too long | |
|---|---|---|---|---|---|---|---|
| **11** | Was the **lecture hour** of the theory appropriate? | 4 | | 2 | | 0 | |
| **12** | Was the **exercise hour** of the practice appropriate? | 3 | | 3 | | 0 | |
| **13** | Was the **length of the training** appropriate? | 2 | | 4 | | 0 | |

| | | Yes | | Too late | | Too early | |
|---|---|---|---|---|---|---|---|
| **14** | Did you receive a **course invitation** at an appropriate time? | 2 | | 4 | | 0 | |

| | | Yes, very much | | Yes, some part | | Nothing | |
|---|---|---|---|---|---|---|---|
| **15** | Do you **utilize theoretical part** of the training to your class in the college? | 5 | | 1 | | 0 | 93.33 |
| **16** | Do you **utilize practical part** of the training to your class in the college? | 1 | | 3 | | 2 | 53.33 |
| **17** | Do you **recommend the training equipment/software** which was used in the course to college management to purchase? | 4 | | 2 | | 0 | 86.67 |



## Construction Training Course Evaluation (Result)

### 3D CAD (Autodesk Revit)

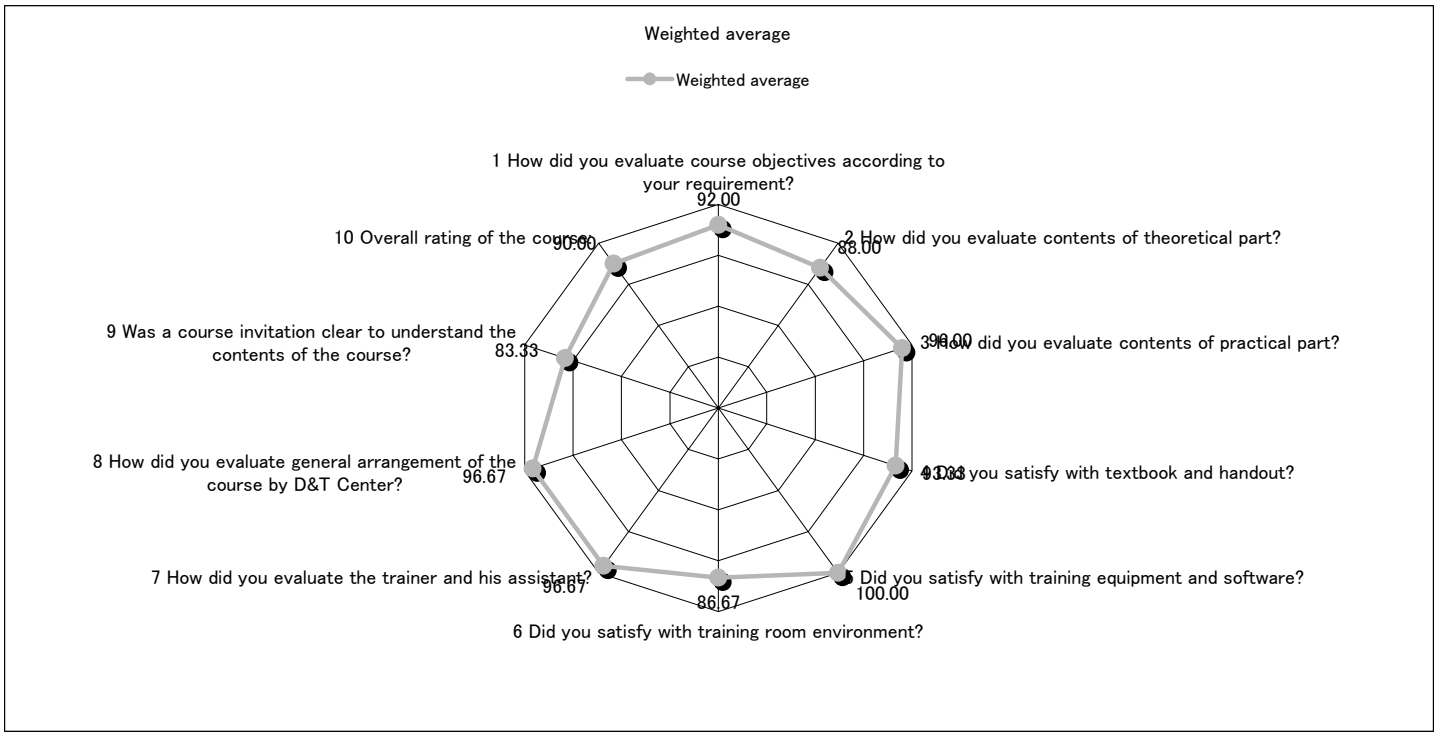
2008/9/13 - 2008/9/17

| | | Very Good | Good | Fair | Poor | Very Poor | Weighted average |
|---|---|---|---|---|---|---|---|
| **1** | How did you evaluate **course objectives** according to your requirement? | 3 | 2 | 0 | 0 | 0 | 92.00 |
| **2** | How did you evaluate **contents of theoretical part**? | 3 | 1 | 1 | 0 | 0 | 88.00 |
| **3** | How did you evaluate **contents of practical part**? | 4 | 1 | 0 | 0 | 0 | 96.00 |
| **4** | Did you satisfy with **textbook and handout**? | 4 | 2 | 0 | 0 | 0 | 93.33 |
| **5** | Did you satisfy with training **equipment and software**? | 6 | 0 | 0 | 0 | 0 | 100.00 |
| **6** | Did you satisfy with **training room** environment? | 2 | 4 | 0 | 0 | 0 | 86.67 |
| **7** | How did you evaluate the **trainer** and his assistant? | 5 | 1 | 0 | 0 | 0 | 96.67 |
| **8** | How did you evaluate **general arrangement** of the course by D&T Center? | 5 | 1 | 0 | 0 | 0 | 96.67 |
| **9** | Was a **course invitation** clear to understand the contents of the course? | 1 | 5 | 0 | 0 | 0 | 83.33 |
| **10** | **Overall rating** of the course: | 3 | 3 | 0 | 0 | 0 | 90.00 |
| | | | | | | **Average (in 100%)** | **92.27** |

| | | Good | | Too short | | Too long | |
|---|---|---|---|---|---|---|---|
| **11** | Was the **lecture hour** of the theory appropriate? | 5 | | 1 | | 0 | |
| **12** | Was the **exercise hour** of the practice appropriate? | 3 | | 3 | | 0 | |
| **13** | Was the **length of the training** appropriate? | 4 | | 2 | | 0 | |

| | | Yes | | Too late | | Too early | |
|---|---|---|---|---|---|---|---|
| **14** | Did you receive a **course invitation** at an appropriate time? | 3 | | 3 | | 0 | |

| | | Yes, very much | | Yes, some part | | Nothing | |
|---|---|---|---|---|---|---|---|
| **15** | Do you **utilize theoretical part** of the training to your class in the college? | 3 | | 0 | | 1 | 80.00 |
| **16** | Do you **utilize practical part** of the training to your class in the college? | 2 | | 2 | | 0 | 80.00 |
| **17** | Do you **recommend the training equipment/software** which was used in the course to college management to purchase? | 3 | | 1 | | 0 | 90.00 |



## Construction Training Course Evaluation (Result)

**Project Management for Construction** By Mr. Okubo (JICA Short-term Expert)

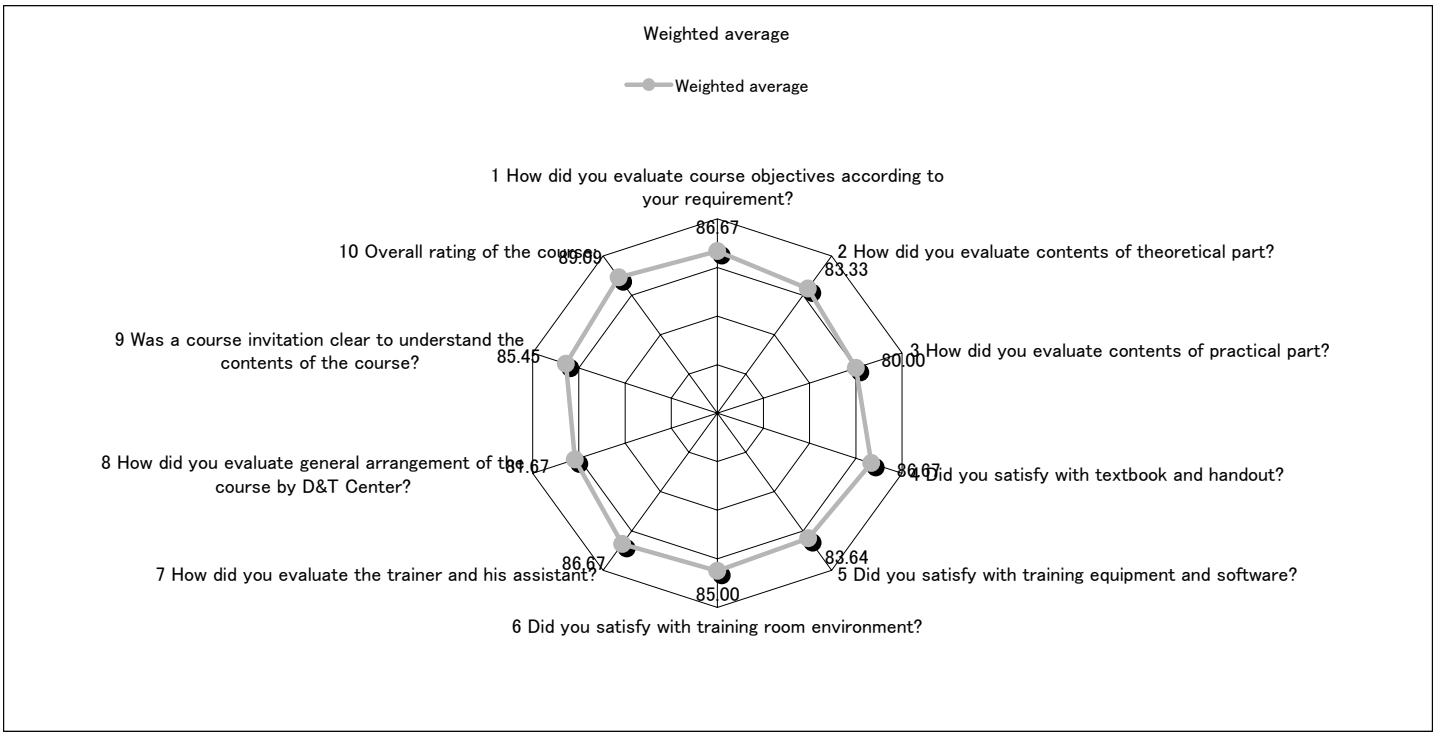
2008/3/29 - 2008/4/02

| | | Very Good | Good | Fair | Poor | Very Poor | Weighted average |
|---|---|---|---|---|---|---|---|
| **1** | How did you evaluate **course objectives** according to your requirement? | 4 | 8 | 0 | 0 | 0 | 86.67 |
| **2** | How did you evaluate **contents of theoretical part**? | 3 | 8 | 1 | 0 | 0 | 83.33 |
| **3** | How did you evaluate **contents of practical part**? | 2 | 8 | 2 | 0 | 0 | 80.00 |
| **4** | Did you satisfy with **textbook and handout**? | 6 | 5 | 0 | 1 | 0 | 86.67 |
| **5** | Did you satisfy with training **equipment and software**? | 5 | 4 | 1 | 1 | 0 | 83.64 |
| **6** | Did you satisfy with **training room** environment? | 4 | 7 | 1 | 0 | 0 | 85.00 |
| **7** | How did you evaluate the **trainer** and his assistant? | 5 | 6 | 1 | 0 | 0 | 86.67 |
| **8** | How did you evaluate **general arrangement** of the course by D&T Center? | 5 | 4 | 2 | 1 | 0 | 81.67 |
| **9** | Was a **course invitation** clear to understand the contents of the course? | 3 | 8 | 0 | 0 | 0 | 85.45 |
| **10** | **Overall rating** of the course: | 6 | 4 | 1 | 0 | 0 | 89.09 |
| | | | | | | **Average (in 100%)** | **84.82** |

| | | Good | | Too short | | Too long | |
|---|---|---|---|---|---|---|---|
| **11** | Was the **lecture hour** of the theory appropriate? | 8 | | 3 | | 1 | |
| **12** | Was the **exercise hour** of the practice appropriate? | 7 | | 5 | | 0 | |
| **13** | Was the **length of the training** appropriate? | 7 | | 5 | | 0 | |

| | | Yes | | Too late | | Too early | |
|---|---|---|---|---|---|---|---|
| **14** | Did you receive a **course invitation** at an appropriate time? | 7 | | 4 | | 0 | |

| | | Yes, very much | | Yes, some part | | Nothing | |
|---|---|---|---|---|---|---|---|
| **15** | Do you **utilize theoretical part** of the training to your class in the college? | 2 | | 8 | | 1 | 63.64 |
| **16** | Do you **utilize practical part** of the training to your class in the college? | 2 | | 7 | | 2 | 60.00 |
| **17** | Do you **recommend the training equipment/software** which was used in the course to college management to purchase? | 7 | | 2 | | 2 | 78.18 |



List of Training Equipment & Software 2005-2008 *Electric

D&T Center Project - JICA

| No. | Item | Manufacturer | Model | Q'ty | Delivery | Dept. | SR | Yen |
|---|---|---|---|---|---|---|---|---|
| 2005-1 | PLC LOGO! Learning Kit | | | | 2005/4/19 | Electric | | |
| 1) | LOGO! Module | SIEMENS | 6ED1052-1FB00-0BA4 | 3 | | | | |
| 2) | LOGO! Module | SIEMENS | 6ED1055-1FB00-0BA1 | 3 | | | | |
| 3) | LOGO! Module | SIEMENS | 6ED1058-0BA00-0YA0 | 3 | | | | |
| 4) | LOGO! Module | SIEMENS | 6ED1057-1AA00-0BA0 | 2 | | | | |
| 5) | LOGO! Module | SIEMENS | 6ED1050-1AA00-0BE5 | 4 | | | | |
| 2005-2 | PLC LOGO! Learning Kit | | | | 2005/11/29 | Electric | | |
| 1) | LOGO! Module | SIEMENS | 6ED1052-1FB00-0BA4 | 5 | | | | |
| 2) | LOGO! Module | SIEMENS | 6ED1055-1FB00-0BA1 | 5 | | | | |
| 3) | LOGO! Module | SIEMENS | 6ED1058-0BA00-0YA0 | 5 | | | | |
| 4) | LOGO! Module | SIEMENS | 6ED1057-1AA00-0BA0 | 5 | | | | |
| 5) | LOGO! Module | SIEMENS | 6ED1050-1AA00-0BE5 | 8 | | | | |
| 2006-1 | PLC LOGO! Learning Kit | | | | 2006/2/11 | Electric | | |
| 1) | LOGO! Module | SIEMENS | 6ED1052-1FB00-0BA4 | 5 | | | | |
| 2) | LOGO! Module | SIEMENS | 6ED1055-1FB00-0BA1 | 5 | | | | |
| 3) | LOGO! Module | SIEMENS | 6ED1058-0BA00-0YA0 | 5 | | | | |
| 4) | LOGO! Module | SIEMENS | 6ED1057-1AA00-0BA0 | 5 | | | | |
| 5) | LOGO! Module | SIEMENS | 6ED1050-1AA00-0BE5 | 8 | | | | |
| 2006-2 | Factory Automation Learning System (FMS) | | | | 2006/3/4 | Electric | 757,585 | |
| 1) | Comveyor System with Control box | FESTO | - | 1 | | | | |
| 2) | MPS Distributing station | FESTO | 195780 | 1 | | | | |
| 3) | MPS Testing station | FESTO | 195781 | 1 | | | | |
| 4) | MPS Handring station (processing) | FESTO | 195783 | 1 | | | | |
| 5) | MPS Processing station | FESTO | 195782 | 1 | | | | |
| 6) | MPS Robot station | FESTO | 195788 | 1 | | | | |
| 7) | MPS Assembly station | FESTO | 195789 | 1 | | | | |
| 8) | Automatic storage/retrival system | FESTO | - | 1 | | | | |
| 9) | MPS Handring station (outgoing) | FESTO | 195783 | 1 | | | | |
| 10) | MPS Sorting station | FESTO | 195786 | 1 | | | | |
| 11) | Communication system for MPS system | FESTO | - | 1 | | | | |
| 12) | Software Set for PLC programming | - | - | - | | | | |
| | *Siemens S7 trainer package | Siemens | 539751 | 1 | | | | |
| | *COSIMIR professional | FESTO | 539088 | 1 | | | | |
| | *COSIMIR robotics 4.1 | FESTO | 536569 | 10 | | | | |
| | *COSIMIR PLC virtual programming | FESTO | 539063 | 10 | | | | |
| | *WinCC trainer package (6 licences) | FESTO | 195442 | 2 | | | | |
| 13) | Programming cable for siemens S7 (MPI adapter) | FESTO | 539006 | 6 | | | | |
| 14) | Training media | - | - | - | | | | |
| | *Mechatronics assistant (6licences) | FESTO | 529134 | 1 | | | | |

List of Training Equipment & Software 2005-2008 *Electric

D&T Center Project - JICA

| No. | Item | Manufacturer | Model | Q'ty | Delivery | Dept. | SR | Yen |
|---|---|---|---|---|---|---|---|---|
| | *Fundamentals of pneumatics (basic+advance) | FESTO | 540941 | 10 | | | | |
| | *Fundamentals of hydraulics (basic+advance) | FESTO | 540920 | 10 | | | | |
| | *Bus studio (basics of fieldbus) | FESTO | 534273 | 10 | | | | |
| | *Fluid SIM 3.6 : Pneumatics | FESTO | 529386 | 10 | | | | |
| | *Fluid SIM 3.6 : Hydraulics | FESTO | 529382 | 10 | | | | |
| 15) | Teachware: Fundamentals of electropneumatics | FESTO | 540926 | 1 | | | | |
| 2006-3 | Power Electronics Learninig System | | | | 2006/3/8 | Electric | 146,150 | |
| 1) | Uni Train Interface | Lucas-Nulle | SO4203-2A | 3 | | | | |
| 2) | Uni Train Experimenter | Lucas-Nulle | SO4203-2B | 5 | | | | |
| 3) | Uni Train Measurement | Lucas-Nulle | SO4203-2J | 3 | | | | |
| 4) | Uni Train Power Supply | Lucas-Nulle | SO4203-2D | 3 | | | | |
| 5) | Uni Train Storege Case | Lucas-Nulle | SO4203-2Y | 3 | | | | |
| 6) | Course Electronics1 | Lucas-Nulle | SO4204-5A | 4 | | | | |
| 7) | Course Electronics4 | Lucas-Nulle | SO4204-5K | 4 | | | | |
| 8) | Course Electronics6 | Lucas-Nulle | SO4204-5P | 4 | | | | |
| 9) | Course Digital technology 1 | Lucas-Nulle | SO4204-6A | 5 | | | | |
| 10) | Course Digital technology 2 | Lucas-Nulle | SO4204-6C | 5 | | | | |
| 11) | Course Power electronics 1 | Lucas-Nulle | SO4204-7N | 4 | | | | |
| 12) | Course Power electronics 2 | Lucas-Nulle | SO4204-7M | 4 | | | | |
| 13) | Course Microcomputer technology 1: Fundamentals | Lucas-Nulle | SO4204-6H | 4 | | | | |
| 14) | Course Microcomputer technology 2: Applications | Lucas-Nulle | SO4204-6J | 3 | | | | |
| 2006-4 | Drive Technology Learning System | | | | 2006/3/8 | Electric | 174,080 | |
| 1) | DC shunt wound machine 0.3kw | Lucas-Nulle | SE2672-3A | 1 | | | | |
| 2) | Universal digital controller | Lucas-Nulle | SO3620-1A | 1 | | | | |
| 3) | Masks for universal digital controller (9 pcs) | Lucas-Nulle | SO3620-1B | 1 | | | | |
| 4) | Tachogenerator o.3kw | Lucas-Nulle | SE2672-2U | 1 | | | | |
| 5) | Soft: 4Q-drive controller | Lucas-Nulle | SO6006-5J | 1 | | | | |
| 6) | Litera: Converter Drives with DC Motors | Lucas-Nulle | SO5159-8J | 1 | | | | |
| 7) | Test lead | Lucas-Nulle | LM9032 | 1 | | | | |
| 8) | Digital universal control unit | Lucas-Nulle | SO3636-1A | 1 | | | | |
| 9) | Static converter valve | Lucas-Nulle | SO3636-1F | 1 | | | | |
| 10) | Masks for line commutated static current converter (9 pcs) | Lucas-Nulle | SO3636-1G | 1 | | | | |
| 11) | RLC load | Lucas-Nulle | SO3636-2A | 1 | | | | |
| 12) | 3 $\phi$ isolating transformer & DC power supply | Lucas-Nulle | SO3636-2G | 1 | | | | |
| 13) | Four chanel differential amplifier | Lucas-Nulle | SO3636-2V | 1 | | | | |
| 14) | Connection cable | Lucas-Nulle | LM6120 | 1 | | | | |
| 15) | Soft: Power electronics for digital universal control unit | Lucas-Nulle | SO6006-1A | 1 | | | | |
| 16) | Soft: Fourier analysis and synthesis dynamic data exchange | Lucas-Nulle | SO6006-1H | 1 | | | | |
| 17) | Litera: Line commutated static converter | Lucas-Nulle | SO5159-8D | 1 | | | | |

List of Training Equipment & Software 2005-2008 *Electric

D&T Center Project - JICA

| No. | Item | Manufacturer | Model | Q'ty | Delivery | Dept. | SR | Yen |
|---|---|---|---|---|---|---|---|---|
| 18) | DC power supply | Lucas-Nulle | SO3538-8D | 1 | | | | |
| 19) | Analog digital multi meter | Lucas-Nulle | SO5127-1Z | 1 | | | | |
| 20) | Serial interface cable | Lucas-Nulle | SO5148-1F | 1 | | | | |
| 21) | Set of safety connection cable | Lucas-Nulle | SO5126-9X | 1 | | | | |
| 22) | Safety connection plug | Lucas-Nulle | SO5126-9Z | 20 | | | | |
| 23) | Safety connection plug with tapping | Lucas-Nulle | ST8003-1C | 10 | | | | |
| 24) | Table top flame | Lucas-Nulle | ST8003-1C | 1 | | | | |
| 25) | Current converter B6 with current reguration | Lucas-Nulle | SO3536-7S | 1 | | | | |
| 26) | Compact controller, PID | Lucas-Nulle | SO3536-6K | 1 | | | | |
| 27) | Inductive load | Lucas-Nulle | SE2666-9Q | 1 | | | | |
| 28) | Litera:Current conductor principals for speed controlled DC | Lucas-Nulle | SO5157-3U | 1 | | | | |
| 29) | 3 $\phi$ asynchrounus motor 0.3kw | Lucas-Nulle | SE2673-1K | 1 | | | | |
| 30) | EPE17 Speed control of 3 $\phi$ asynchrounus machines | Lucas-Nulle | SO5159-8L | 1 | | | | |
| 31) | Frequency converter industrial type 0.75kw | Lucas-Nulle | SO3636-5D | 1 | | | | |
| 32) | Brake resistor 0.2kw for frequency converter | Lucas-Nulle | SO3636-5V | 1 | | | | |
| 33) | EDT25 Frequency converter fundamentals | Lucas-Nulle | SO5159-9A | 1 | | | | |
| 34) | Soft: Drivesoft for converter | Lucas-Nulle | SO6006-2G | 1 | | | | |
| 35) | DC unit with 6 IGBTs | Lucas-Nulle | SO3636-1R | 1 | | | | |
| 36) | Masks for DC unit with 6 IGBTs | Lucas-Nulle | SO3636-1S | 1 | | | | |
| 37) | Soft: Power electronics for digital universal control unit | Lucas-Nulle | SO6006-1A | 1 | | | | |
| 38) | Soft: PWM-TRAIN | Lucas-Nulle | SO6006-1E | 1 | | | | |
| 39) | Soft: AC-PWM | Lucas-Nulle | SO6006-1P | 1 | | | | |
| 40) | Soft: Fourier analysis and synthesis with dynamic data | Lucas-Nulle | SO6006-1H | 1 | | | | |
| 41) | EPE20 Self commutated static converters | Lucas-Nulle | - | 1 | | | | |
| 42) | Soft FC-TRAIN | Lucas-Nulle | SO6006-1R | 1 | | | | |
| 43) | EPE26 Frequency converter with asynchrons machine | Lucas-Nulle | SO5159-8N | 1 | | | | |
| 44) | Synchronous machne, brushless, permanent magnet excitation | Lucas-Nulle | SE2662-3T | 1 | | | | |
| 45) | Rotor position indicator | Lucas-Nulle | SE2662-6L001 | 1 | | | | |
| 46) | Soft: VC-TRAIN and EC-TRAIN | Lucas-Nulle | SO6006-1T | 1 | | | | |
| 47) | EPE27 Electronically commutated synchrounus machine | Lucas-Nulle | SO5159-8P | 1 | | | | |
| 48) | Liner guide rail unit 800/1000mm | Lucas-Nulle | SE2663-3U | 1 | | | | |
| 49) | Soft: PosiDrive positioning software for servo brake | Lucas-Nulle | SO6006-2J | 1 | | | | |
| 50) | Foot base (pair) for 5mm panels | Lucas-Nulle | SO5127-2Y | 1 | | | | |
| 51) | Adapte connection cable | Lucas-Nulle | SO5126-6V | 4 | | | | |
| 52) | Safety connection cable | Lucas-Nulle | SO5126-9L | 6 | | | | |
| 53) | Digitalcontrol unit for servo drive/servo brake 0.3kw | Lucas-Nulle | SO3636-6R | 1 | | | | |
| 54) | Servo motor/servo brake 0.3kw | Lucas-Nulle | SE2663-6A | 1 | | | | |
| 55) | RS232C/485 interface module | Lucas-Nulle | LM8925 | 1 | | | | |
| 56) | PC connection cable for RS232C/485 interface module | Lucas-Nulle | LM9028 | 1 | | | | |

List of Training Equipment & Software 2005-2008 *Electric

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| No. | Item | Manufacturer | Model | Q'ty | Delivery | Dept. | SR Yen |
|---|---|---|---|---|---|---|---|
| 57) | Rubber coupling sleeve, 0.3kw | Lucas-Nulle | SE2662-2A | 1 | | | |
| 58) | Coupling guard, 0.3kw | Lucas-Nulle | SE2662-2B | 1 | | | |
| 59) | Shaft end gurd, 0.3kw | Lucas-Nulle | SE2662-2C | 1 | | | |
| 60) | Universal power supply for DC and three phase | Lucas-Nulle | SO3212-5U | 1 | | | |
| 2006-5 | Automatic Control Learning System | | | | 2006/3/8 | Electric | 83,040 |
| 1) | UniTrain Interface | Lucas-Nulle | SO4203-2A | 4 | | | |
| 2) | UniTrain Experimenter | Lucas-Nulle | SO4203-2B | 10 | | | |
| 3) | Mesurement accessories | Lucas-Nulle | SO4203-2J | 4 | | | |
| 4) | Uni Train Power supply | Lucas-Nulle | SO4203-2D | 4 | | | |
| 5) | Digitalmultimeter MetraHit One M204D | Lucas-Nulle | LM2321 | 4 | | | |
| 6) | Uni Train Strage case | Lucas-Nulle | SO4203-2Y | 4 | | | |
| 7) | Course Control Tech 1: Instrumentation and control circuit | Lucas-Nulle | SO4204-8F | 4 | | | |
| 8) | Course Control Tech 2: Automatic temperature, speed and lighting control | Lucas-Nulle | SO4204-8G | 4 | | | |
| 9) | Course Electronics 5: Operational amplifiers | Lucas-Nulle | SO4204-5M | 4 | | | |
| 2006-6 | PLC Learning System | | | | 2006/3/8 | Electric | 17,050 |
| 1) | Uni Train Interface | | SO4203 -2A | 1 | | | |
| 2) | Uni Train Experimenter | | SO4203-2B | 5 | | | |
| 3) | Uni Train Measurement | | SO4203-2J | 1 | | | |
| 4) | Uni Train Power Supply | | SO4203-2D | 1 | | | |
| 5) | Uni Train Storege Case | | SO4203-2Y | 1 | | | |
| 6) | Course Automation Tech 1: Compact automatio, PLC and bus technology | | SO4204-8N | 1 | | | |
| 2007-1 | PLC Learning System | | | | 2007/2/18 | Electric | 225,000 |
| 1) | S7-300 Programmable Logic Controller | | | 5 | | | |
| | *Simatic S7 CPU-313C | FESTO | 730822 | | | | |
| | *57 PC Adaptor | FESTO | 730879 | | | | |
| | *Component STEP7, Documentation CD | FESTO | 730880 | | | | |
| | *Simatic S7 Trainer Package 12 License | FESTO | 730870 | | | | |
| 2) | Modular S7-300 Controller | | | 5 | | | |
| | *PLC Basic Unit | FESTO | 730800 | | | | |
| | *DIN Rail for S7-300 | FESTO | 730797 | | | | |
| | *8x Digital Inputs | FESTO | 730801 | | | | |
| | *8x Digital Outputs | FESTO | 730802 | | | | |
| | *Analog Input/Output 4/2 | FESTO | 730803 | | | | |
| | *16x Analog Inputs | FESTO | 730806 | | | | |
| | *Socket Field Panel, 20 | FESTO | 730808 | | | | |
| | *2 Byte Input/Output (16 Bit) | FESTO | 730812 | | | | |
| | *Digital Voltmeter Module +-60V | FESTO | 730813 | | | | |

List of Training Equipment & Software 2005-2008 *Electric

D&T Center Project - JICA

| No. | Item | Manufacturer | Model | Q'ty | Delivery | Dept. | SR Yen |
|---|---|---|---|---|---|---|---|
| | *Input/Output for CPU 312 1fm | FESTO | 730814 | | | | |
| | Semantic S7-312 IMF CPU | FESTO | 730823 | | | | |
| 2007-2 | Automatic Control Learning System | | | | 2007/3/11 | Electric | 80,000 |
| 1) | Uni Train Experimenter | Lucas-Nulle | SO4203-2B | 2 | | | |
| 2) | Universal Digital Controller (microcontroller) *UDC | Lucas-Nulle | SO3620-1A | 4 | | | |
| 3) | Set of Overlat Masks for Universal Digital Controller (9 pcs) | Lucas-Nulle | SO3620-1B | 4 | | | |
| 4) | Serial interface cable 9/9 hole | Lucas-Nulle | LM9040 | 4 | | | |
| 5) | Software for Configuration of UDC | Lucas-Nulle | SO6006-5A | 4 | | | |
| 6) | Software 2-pos. controller for UDC | Lucas-Nulle | SO6006-5C | 4 | | | |
| 7) | Software 3-pos. Controller for UDC | Lucas-Nulle | SO6006-5E | 4 | | | |
| 8) | Software PID Controller for UDC | Lucas-Nulle | SO6006-5G | 4 | | | |
| 9) | DC Power Supply | Lucas-Nulle | SO3538-8D | 4 | | | |
| 10) | Digital Multimeter AC 0-600V, DC 0-600V, 0.1-40mOhm | Lucas-Nulle | LM2105 | 4 | | | |
| 11) | Power Amplifier | Lucas-Nulle | SO3536-7Q | 4 | | | |
| 12) | Safety Connection Plug 19/4mm | Lucas-Nulle | SO5126-9X | 60 | | | |
| 13) | Safety Connection Plug 19/4mm with Tapping | Lucas-Nulle | SO5126-9Z | 20 | | | |
| 14) | Set of Safety Connection Cables 4mm (30 pcs) | Lucas-Nulle | SO5148-1A | 2 | | | |
| 2007-3 | Power Electronics Learning System | | | | 2007/3/11 | Electric | 39,900 |
| 1) | Uni Train-I Interface with Virtual Instruments (Basic VI) | Lucas-Nulle | SO4203-2A | 1 | | | |
| 2) | Uni Train-I Experimenter | Lucas-Nulle | SO4203-2B | 3 | | | |
| 3) | Uni Train-I Measurement Accessories, shunts, cables | Lucas-Nulle | SO4203-2J | 1 | | | |
| 4) | Uni Train-I Extended Three Phase Power Supply | Lucas-Nulle | SO4203-2D | 1 | | | |
| 5) | Uni Train-I Storage Case for One System | Lucas-Nulle | SO4203-2Y | 1 | | | |
| 6) | Courseware: Electronics 1, Semiconductor Components | Lucas-Nulle | SO4204-5A | 1 | | | |
| 7) | Courseware: Electronics 4, Field Effect Transistors | Lucas-Nulle | S4204-5K | 1 | | | |
| 8) | Courseware: Electronics 6, Power Semiconductor Devices | Lucas-Nulle | SO4204-5P | 1 | | | |
| 9) | Course ware: Power Electronics 1, Line-commutated Power Converters, 3-phase | Lucas-Nulle | SO4204-7N | 1 | | | |
| 10) | Courseware: Power Electronics 2, Self-commutated Power Converters | Lucas-Nulle | SO4204-7M | 1 | | | |
| 11) | Courseware: Microcomputer Technology 2, Applications and Programs | Lucas-Nulle | SO4204-6J | 1 | | | |
| 12) | Table Top Flame | Lucas-Nulle | ST8003-1C | 4 | | | |
| 2007-4 | Pneumatic Learning System | | | | 2007/10/31 | Electric | 38,990 |
| 1) | Basic Pnuematic Equipment Set TP101 | FESTO | 540710 | 1 | | | |
| 2) | Supplementary Equipment Set TP201 | FESTO | 540717 | 1 | | | |
| 3) | Single-sided Stationary Workstation | FESTO | 539023 | 1 | | | |
| 4) | Classroom Compressor | FESTO | 91030 | 1 | | | |
| 2008-1 | Automatic Control Learning System | | | | | Electric | 243,932 |

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| No. | Item | Manufacturer | Model | Q'ty | Delivery | Dept. | SR | Yen |
|---|---|---|---|---|---|---|---|---|
| 1) | Three-phase Suuply 400V/16A | Lucas-Nulle | SO3212-1B | 2 | 2008/6/4 | | | |
| 2) | Variable Isolating Transformer/Exciter 0-230V | Lucas-Nulle | SO3212-5K | 1 | | | | |
| 3) | Universal Motor 0.3kw | Lucas-Nulle | SE2662-3E | 1 | | | | |
| 4) | Rubber Coupling Sleeve 0.3kw | Lucas-Nulle | SE2662-2A | 5 | | | | |
| 5) | Software Power View Add-on to PE V1.0 | Lucas-Nulle | SO6006-1K | 2 | | | | |
| 6) | Software Active ASMA Asynchr-Machines Charasteristic | Lucas-Nulle | SO6006-4A | 2 | | | | |
| 7) | Software Active DCMA DC-Machines Charasteristic | Lucas-Nulle | SO6006-4C | 2 | | | | |
| 8) | Software SimuLoad V1.0 | Lucas-Nulle | SO6001-2N | 2 | | | | |
| 9) | Software DynAMA Dynamic Working Machines | Lucas-Nulle | SO6001-2Q | 2 | | | | |
| 10) | CLC30 PLC Fundamentals, STEP7 Basics Handbooks (5) | Lucas-Nulle | SO5160-1H | 1 | | | | |
| 11) | CLC30 PLC Fundamentals, STEP7 Reference Handbooks (4) | Lucas-Nulle | SO5160-1J | 1 | | | | |
| 12) | CCS02 Communication Description | Lucas-Nulle | SO5160-3R | 1 | | | | |
| 13) | CCS06 Connection, Operation & Programming of SIMATIC N | Lucas-Nulle | SO5160-3V | 1 | | | | |
| 14) | System Manuals for Servo & Frequency Converter (CD) | Lucas-Nulle | SO5155-3E | 1 | | | | |
| 15) | Manual CLP20 Controlling of Electric Drive System | Lucas-Nulle | SH5009-6L | 1 | | | | |
| 16) | CLC30 Fundamentals PLC, SIMATIC Documents (CD) | Lucas-Nulle | SO5155-1N | 1 | | | | |
| 17) | Analog/Digital Multimeter, Wattmeter, Power-factor Meter | Lucas-Nulle | SO5127-1Z | 1 | | | | |
| 18) | Software: STEP7 Basis for S7, M7, C7 V5.3 | Lucas-Nulle | SO6007-1P | 1 | | | | |
| 19) | PC Connection Cable for RS232/485 Interface | Lucas-Nulle | LM9028 | 1 | | | | |
| 20) | Blank Panel for Basic Unit | Lucas-Nulle | SO3713-3Z | 3 | 2008/7/6 | | | |
| 21) | Three-phase Asynchronous Machine Industrial Version | Lucas-Nulle | SE2663-1K | 1 | | | | |
| 22) | Operator Panel OP177B Trainer Package | Lucas-Nulle | SO3713-4N | 1 | | | | |
| 23) | PROFIBUS DP Interface Module | Lucas-Nulle | LM8926 | 1 | | | | |
| 24) | Connection Cabvles for PROFIBUS | Lucas-Nulle | LM9181 | 3 | | | | |
| 25) | Connection Plug for PROFIBUS with PG-socket | Lucas-Nulle | LM9182 | 3 | | | | |
| 26) | Wire Stripper for PROFIBUS Cable | Lucas-Nulle | LM9184 | 1 | | | | |
| 27) | Gear with Operating Arm, 0.3kw | Lucas-Nulle | SE2664-1A | 1 | | | | |
| 28) | Mechanical Sensor | Lucas-Nulle | SE2664-1F | 1 | | | | |
| 29) | Inductive Sensor | Lucas-Nulle | SE2664-1J | 1 | | | | |
| 30) | Capacitive Sensor | Lucas-Nulle | SE2664-1M | 1 | | | | |
| 31) | Optical Sensor | Lucas-Nulle | SE2664-1Q | 1 | | | | |
| 32) | Rubber Coupling Sleeve 0.3kw | Lucas-Nulle | SE2662-2A | 2 | | | | |
| 33) | Coupling Guard, 0.3kw | Lucas-Nulle | SE2662-2B | 2 | | | | |
| 34) | DC Power Supply, 24V/2A | Lucas-Nulle | SO3538-8C | 1 | | | | |
| 35) | PLC-S7 PC-adapter with RS232/MPI Converter | Lucas-Nulle | SO3713-5C | 1 | | | | |
| 36) | RS232 Cable (0-modem-cable) for PLC-S7 PC-adapter | Lucas-Nulle | SO3713-5D | 1 | | | | |
| 37) | Configuration Cable for Operator Panel & Programming Unit | Lucas-Nulle | SO3713-4F | 1 | | | | |
| 38) | Software: DRIVESOFT for Converters V4.0 | Lucas-Nulle | SO6006-2G | 1 | | | | |
| 39) | Software: Pro Tool/Lite Project Planning for Control Unit | Lucas-Nulle | SO6007-1T | 1 | | | | |

List of Training Equipment & Software 2005-2008 *Electric

D&T Center Project - JICA

| No. | Item | Manufacturer | Model | Q'ty | Delivery | Dept. | SR | Yen |
|---|---|---|---|---|---|---|---|---|
| 40) | RS232/485 Interface Module | Lucas-Nulle | LM8925 | 1 | | | | |
| 41) | Set of Safety Connection Cables 4mm (47 pcs) | Lucas-Nulle | SO5148-1F | 1 | | | | |
| 42) | Safety Connection Plug 19/4mm | Lucas-Nulle | SO5126-9X | 15 | | | | |
| 43) | Safety Connection Plug 19/4mm with Tapping | Lucas-Nulle | SO5126-9Z | 5 | | | | |
| 44) | Table-topFrame, 3 Levels, W1460 x H1060mm | Lucas-Nulle | ST8003-1T | 1 | | | | |
| 45) | Set of Safety Connection Cables for PLC System Connector | Lucas-Nulle | SO5145-5B | 1 | | | | |
| 46) | Basic Unit with CPU 314C-2DP (SIMTIC S7) | Lucas-Nulle | SO3713-2K | 1 | 2008/9/14 | | | |
| 47) | Frequency Converter (VC), Industrial Type 0.75kw | Lucas-Nulle | SO3636-5D | 1 | | | | |
| 48) | Fdigital Control Unit for Servo Drive/Servo Brake 0.3kw | Lucas-Nulle | SE2663-6A | 1 | | | | |
| 49) | Brake Resistor 0.2kw for Frequency Converters | Lucas-Nulle | SO3636-5V | 1 | | | | |
| 50) | Three-phase Power Supply 400V/16A | Lucas-Nulle | SO3212-1B | 1 | | | | |
| 2008-2 | **PLC Module *現地活動費で購入** | | | | 2007/6/28 | Electric | 12,225 | |
| 1) | EasyPort-USB-D16A | FESTO | 548687 | 5 | | | | |
| 2) | Sys-link-cable | FESTO | 34031 | 5 | | | | |
| 3) | Adapter | FESTO | 540699 | 5 | | | | |
| 4) | Cable | FESTO | 381525 | 5 | | | | |
| 5) | Silencer | FESTO | 161418 | 4 | | | | |

List of Training Equipment & Software 2005-2008 *Mechanical

D&T Center Project - JICA

| No. | Item | Manufacturer | Model | Q'ty | Delivery | Dept. | SR | Yen |
|---|---|---|---|---|---|---|---|---|
| 2006-1 | CAD/CAM 3D Milling System | | | | 2006/1/18 | Mecha. | 261,112 | |
| 1) | 3D modeling machine unit | Roland | MDX-650A | 1 | | | | |
| 2) | Modeling spindle | Roland | ZS-650T | 1 | | | | |
| 3) | Collet 3mm | Roland | ZC-5030 | 1 | | | | |
| 4) | Collet 3.2mm | Roland | ZC5032 | 1 | | | | |
| 5) | Collet 4mm | Roland | ZC5040 | 1 | | | | |
| 6) | Collet 3/16" | Roland | ZC-5048 | 1 | | | | |
| 7) | Collet 5mm | Roland | ZC5050 | 1 | | | | |
| 8) | Collet 6mm | Roland | ZC5060 | 1 | | | | |
| 9) | Collet 6.35mm | Roland | ZC-5063 | 1 | | | | |
| 10) | Collet 8mm | Roland | ZC5080 | 1 | | | | |
| 11) | Collet 3/8" | Roland | ZC-5095 | 1 | | | | |
| 12) | Collet 10mm | Roland | ZC-5100 | 1 | | | | |
| 13) | Vacuum Adapter | Roland | ZAD-500T | 1 | | | | |
| 14) | Modeling spindle | Roland | ZS-650TY | 1 | | | | |
| 15) | Collet 10mm | Roland | EY16-10 | 1 | | | | |
| 16) | Collet 3mm | Roland | EY16-3 | 1 | | | | |
| 17) | Collet 3.5mm | Roland | EY16-3.5 | 1 | | | | |
| 18) | Collet 4mm | Roland | EY16-4 | 1 | | | | |
| 19) | Collet 5mm | Roland | EY16-5 | 1 | | | | |
| 20) | Collet 6mm | Roland | EY16-6 | 1 | | | | |
| 21) | Collet 8mm | Roland | EY16-8 | 1 | | | | |
| 22) | Rotary axis unit | Roland | ZCL-650 | 1 | | | | |
| 23) | Table spacer 30mm | Roland | ZA-503 | 1 | | | | |
| 24) | Table spacer 50mm | Roland | ZA-505 | 1 | | | | |
| 25) | Table spacer 80mm | Roland | ZA-508 | 1 | | | | |
| 26) | Table spacer 130mm | Roland | ZA-613 | 1 | | | | |
| 27) | Safety cover for MDX-650 | Roland | ZBX-650 | 1 | | | | |
| 28) | Chemically treated wood 147x50mm | Roland | ZSM-SS | 1 | | | | |
| 29) | Automatic tool changer | Roland | ZAT-650 | 1 | | | | |
| 30) | Expansion magazine | Roland | ZM-650 | 1 | | | | |
| 31) | Tool holder | Roland | 15T-NDC10-52-PB | 1 | | | | |
| 32) | Tool holder | Roland | 15T-NDC5-35-PB | 1 | | | | |
| 33) | Tool holder | Roland | 15T-NDC7S-48-PB | 1 | | | | |
| 34) | Tool holder | Roland | 15T-NDC7S-55-PB | 1 | | | | |
| 35) | Tool holder | Roland | 15T-NDC7S-75-PB | 1 | | | | |
| 36) | Collet 10.0-9.0mm | Roland | YCC10-10 | 1 | | | | |
| 37) | Collet 6.0-5.0mm | Roland | YCC10-6 | 1 | | | | |
| 38) | Collet 8.0-7.0mm | Roland | YCC10-8 | 1 | | | | |

List of Training Equipment & Software 2005-2008 *Mechanical

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| No. | Item | Manufacturer | Model | Q'ty | Delivery | Dept. | SR | Yen |
|---|---|---|---|---|---|---|---|---|
| 39) | Collet 3.0-2.5mm | Roland | YCC5-3 | 1 | | | | |
| 40) | Collet 4.0-3.5mm | Roland | YCC5-4 | 1 | | | | |
| 41) | Collet 5.0-4.5mm | Roland | YCC5-5 | 1 | | | | |
| 42) | Collet 3.0-2.5mm | Roland | YCC7-3 | 1 | | | | |
| 43) | Collet 4.0-3.5mm | Roland | YCC7-4 | 1 | | | | |
| 44) | Collet 6.0-3.5mm | Roland | YCC7-6 | 1 | | | | |
| 45) | Wrench for 15T-NDC5 | Roland | FS-10 | 1 | | | | |
| 46) | Wrench for 15T-NDC7S | Roland | FS-22 | 1 | | | | |
| 47) | Wrench for 15T-NDC10 | Roland | FS-33 | 1 | | | | |
| 48) | Printer cable molding 9 feet | Roland | 90100004 | 1 | | | | |
| 49) | Steel table for MDX-650 | Roland | 10060001 | 2 | | | | |
| 50) | Compressor for MDX-650 100 letter shamal N160/100 | Roland | 10060002 | 1 | | | | |
| 51) | CNC 2D-3D modeling & scanning 22x16x6cm | Roland | MDX-20 | 3 | | | | |
| 52) | Spindle unit 3.175mm | Roland | PS-1/8 | 3 | | | | |
| 53) | Spindle unit 3mm | Roland | PS-3 | 3 | | | | |
| 54) | Spindle unit 4mm | Roland | PS-4 | 3 | | | | |
| 55) | Spindle unit 5mm | Roland | PS-5 | 3 | | | | |
| 56) | Spindle unit 6mm | Roland | PS-6 | 3 | | | | |
| 57) | CAM2 cutter 3.175*114*0.127mm | Roland | ZEC-A2013 | 3 | | | | |
| 58) | CAM2 cutter 3.175*114*0.254mm | Roland | ZEC-A2025 | 3 | | | | |
| 59) | CAM2 cutter 3.175*114*0.508mm | Roland | ZEC-A2051 | 3 | | | | |
| 60) | CAM2 cutter 3.175*114*0.762mm | Roland | ZEC-A2076 | 3 | | | | |
| 61) | Engraving cutter for CAMM-3 | Roland | ZEC-100 | 3 | | | | |
| 62) | End mill (high speed steel) | Roland | ZHS-100 | 3 | | | | |
| 63) | End mill (high speed steel) | Roland | ZHS-200 | 3 | | | | |
| 64) | End mill (high speed steel) | Roland | ZHS-300 | 3 | | | | |
| 65) | End mill (high speed steel) | Roland | ZHS-400 | 3 | | | | |
| 66) | End mill (high speed steel) | Roland | ZHS-500 | 3 | | | | |
| 67) | End mill (high speed steel) | Roland | ZHS-600 | 3 | | | | |
| 68) | End mill for MDX-3/MDX-20 | Roland | ZHS-3015 | 3 | | | | |
| 69) | Square end mill | Roland | ZUS-300 | 3 | | | | |
| 70) | Square end mill | Roland | ZUS-400 | 3 | | | | |
| 71) | Square end mill | Roland | ZUS-500 | 3 | | | | |
| 72) | Square end mill | Roland | ZUS-600 | 3 | | | | |
| 73) | Ball end mill | Roland | ZUB-200 | 6 | | | | |
| 74) | Ball end mill | Roland | ZUB-250 | 3 | | | | |
| 75) | Ball end mill | Roland | ZUB-300 | 3 | | | | |
| 76) | Spindle motor unit for MDX-15/20 | Roland | MM-40 | 3 | | | | |
| 77) | Modeling wax | Roland | ZW-200 | 6 | | | | |

List of Training Equipment & Software 2005-2008 *Mechanical

D&T Center Project - JICA

| No. | Item | Manufacturer | Model | Q'ty | Delivery | Dept. | SR | Yen |
|---|---|---|---|---|---|---|---|---|
| 78) | Printer cable molding 9 feet | Roland | 90100004 | 3 | | | | |
| 79) | Autodesk Inventor Professional 10 DVD EDU | Autodesk | 46204-091462-9711 | 1 | | | | |
| 80) | Collet set 3, 3.75 (1/8"), 4, 5, 6.35 (1/4"), 8,10mm | Roland | ZC500T | 1 | 2006/3/4 | | | |
| 80) | Spindle unit 6.35mm for MDX-15 | Roland | PS-1/4 | 3 | 2006/3/4 | | | |
| 2006-2 | Laser Cutting Machine System<br>CO2 Laser cutting machine<br>*FANUC AF1000E Ascillator<br>*F-16iLA NC control<br>*Off-line programming software, AP100NT-L | Amada | Quattro | 1 | 2006/4/15 | Mecha. | 1,150,000 | |
| 2006-1 | CAD/CAM 3D Milling System | | | | 2006/10/3 | Mecha. | 185,261 | |
| 1) | 3D modeling machine unit | Roland | MDX-650A | 1 | | | | |
| 2) | Modeling spindle | Roland | ZS-650T | 1 | | | | |
| 3) | Collet 3mm | Roland | ZC-5030 | 1 | | | | |
| 4) | Collet 3.2mm | Roland | ZC5032 | 1 | | | | |
| 5) | Collet 4mm | Roland | ZC5040 | 1 | | | | |
| 6) | Collet 3/16" | Roland | ZC-5048 | 1 | | | | |
| 7) | Collet 5mm | Roland | ZC5050 | 1 | | | | |
| 8) | Collet 6mm | Roland | ZC5060 | 1 | | | | |
| 9) | Collet 6.35mm | Roland | ZC-5063 | 1 | | | | |
| 10) | Collet 8mm | Roland | ZC5080 | 1 | | | | |
| 11) | Collet 3/8" | Roland | ZC-5095 | 1 | | | | |
| 12) | Collet 10mm | Roland | ZC-5100 | 1 | | | | |
| 13) | Collet set 3, 3.75 (1/8"), 4, 5, 6.35 (1/4"), 8,10mm | Roland | ZC500T | 1 | | | | |
| 14) | Vacuum Adapter | Roland | ZAD-500T | 1 | | | | |
| 15) | Modeling spindle | Roland | ZS-650TY | 1 | | | | |
| 16) | Collet 10mm | Roland | EY16-10 | 1 | | | | |
| 17) | Collet 3mm | Roland | EY16-3 | 1 | | | | |
| 18) | Collet 3.5mm | Roland | EY16-3.5 | 1 | | | | |
| 19) | Collet 4mm | Roland | EY16-4 | 1 | | | | |
| 20) | Collet 5mm | Roland | EY16-5 | 1 | | | | |
| 21) | Collet 6mm | Roland | EY16-6 | 1 | | | | |
| 22) | Collet 8mm | Roland | EY16-8 | 1 | | | | |
| 23) | Rotary axis unit | Roland | ZCL-650 | 1 | | | | |
| 24) | Table spacer 30mm | Roland | ZA-503 | 1 | | | | |
| 25) | Table spacer 50mm | Roland | ZA-505 | 1 | | | | |
| 26) | Table spacer 80mm | Roland | ZA-508 | 1 | | | | |
| 27) | Table spacer 130mm | Roland | ZA-613 | 1 | | | | |
| 28) | Safety cover for MDX-650 | Roland | ZBX-650 | 1 | | | | |
| 29) | Chemically treated wood 147x50mm | Roland | ZSM-SS | 1 | | | | |

List of Training Equipment & Software 2005-2008 *Mechanical

D&T Center Project - JICA

| No. | Item | Manufacturer | Model | Q'ty | Delivery | Dept. | SR | Yen |
|---|---|---|---|---|---|---|---|---|
| 30) | Automatic tool changer | Roland | ZAT-650 | 1 | | | | |
| 31) | Expansion magazine | Roland | ZM-650 | 1 | | | | |
| 32) | Tool holder | Roland | 15T-NDC10-52-PB | 1 | | | | |
| 33) | Tool holder | Roland | 15T-NDC5-35-PB | 1 | | | | |
| 34) | Tool holder | Roland | 15T-NDC7S-48-PB | 1 | | | | |
| 35) | Tool holder | Roland | 15T-NDC7S-55-PB | 1 | | | | |
| 36) | Tool holder | Roland | 15T-NDC7S-75-PB | 1 | | | | |
| 37) | Collet 10.0-9.0mm | Roland | YCC10-10 | 1 | | | | |
| 38) | Collet 6.0-5.0mm | Roland | YCC10-6 | 1 | | | | |
| 39) | Collet 8.0-7.0mm | Roland | YCC10-8 | 1 | | | | |
| 40) | Collet 3.0-2.5mm | Roland | YCC5-3 | 1 | | | | |
| 41) | Collet 4.0-3.5mm | Roland | YCC5-4 | 1 | | | | |
| 42) | Collet 5.0-4.5mm | Roland | YCC5-5 | 1 | | | | |
| 43) | Collet 3.0-2.5mm | Roland | YCC7-3 | 1 | | | | |
| 44) | Collet 4.0-3.5mm | Roland | YCC7-4 | 1 | | | | |
| 45) | Collet 6.0-3.5mm | Roland | YCC7-6 | 1 | | | | |
| 46) | Wrench for 15T-NDC5 | Roland | FS-10 | 1 | | | | |
| 47) | Wrench for 15T-NDC7S | Roland | FS-22 | 1 | | | | |
| 48) | Wrench for 15T-NDC10 | Roland | FS-33 | 1 | | | | |
| 2007-1 | CAD Software for Mechanical Engineering | | | | 2007/7/25 | Mecha. | 6,300 | |
| 1) | Inventor Professional 2008 EDU 10 Pack | Autodesk | 46206-091462-9710 | 1 | | | | |
| 2) | AutoCAD Mechanical 2007 Essentials | Autodesk | 20611-050008-1670A | 1 | | | | |
| 2007-2 | CAD/CAM Software | | | | 2007/10/31 | Mecha. | | 1,993,050 |
| 1) | OneCNC XR2, CD-ROM & USB Key Set | OneCNC | | 1 | | | | |
| 2007-3 | CAD/CAM Software | | | | 2007/10/31 | Mecha. | | 118,650 |
| 1) | Trycut 2000 Professional | Bloadmain | | 1 | | | | |
| 2) | NC Viewer | System I | | 1 | | | | |
| 2008-1 | CAD/CAM Software | | | | 2008/1/31 | Mecha. | | 56,350 |
| 1) | Vextractor 3.90 | VextraSoft | | 7 | | | | |
| 2008-2 | CAD Software for Mechanical Engineering | | | | 2008/2/4 | Mecha. | 5,500 | |
| 1) | Inventor Professional 2008 EDU 10 Pack | Autodesk | | 1 | | | | |
| 2008-3 | CAD/CAM Software | | | | 2008/3/11 | Mecha. | | 2,754,488 |
| 1) | Rhinoceros 4.0 (3D CAD) Professional | RhinoCAD | | 8 | | | | |
| 2) | RhinoCAM 10 for Rhinoceros 4.0 | Mecsoft | | 8 | | | | |
| 3) | NC Viewer | System I | | 8 | | | | |
| 2008-4 | Tools & Material | | | | 2008/3/11 | Mecha. | | 1,739,246 |
| 1) | Synthetic Wood (Box) | | ZSM-SS | 20 | | | | |
| 2) | Cutting Material, Wax (Box) | | ZW-200 | 4 | | | | |
| 3) | Tool Holder | Roland | T15-NDC7S-75-PB | 4 | | | | |

List of Training Equipment & Software 2005-2008 *Mechanical

D&T Center Project - JICA

| No. | Item | Manufacturer | Model | Q'ty | Delivery | Dept. | SR | Yen |
|---|---|---|---|---|---|---|---|---|
| 4) | Tool Holder | Roland | T15-NDC10-52-PB | 4 | | | | |
| 5) | Collet | Roland | YCC-10-10 | 4 | | | | |
| 6) | Collet | Roland | YCC-10-8 | 4 | | | | |
| 7) | Collet | Roland | YCC-10-6 | 4 | | | | |
| 8) | Collet | Roland | YCC-7-6 | 8 | | | | |
| 9) | Spanner Wrench | Roland | FS10 | 3 | | | | |
| 10) | Spanner Wrench | Roland | FS22 | 3 | | | | |
| 11) | Spanner Wrench | Roland | FS33 | 3 | | | | |
| 12) | Ball-end Mill | Roland | ZCB-150 | 12 | | | | |
| 13) | Ball-end Mill | Roland | ZCB-200 | 12 | | | | |
| 14) | Ball-end Mill | Roland | ZCB-300 | 12 | | | | |
| 15) | Ball-end Mill | Roland | ZCB-400 | 6 | | | | |
| 16) | Ball-end Mill | Roland | ZCB-500 | 6 | | | | |
| 17) | End Mill | Roland | ZHS-100 | 12 | | | | |
| 18) | End Mill | Roland | ZHS-200 | 12 | | | | |
| 19) | End Mill | Roland | ZHS-400 | 12 | | | | |
| 20) | End Mill | Roland | ZHS-600 | 12 | | | | |
| 21) | End Mill | Roland | ZHS-800 | 6 | | | | |
| 22) | End Mill | Roland | ZHS-1000 | 6 | | | | |
| 23) | Cutting Tool | Roland | ZEC-A2051 | 12 | | | | |
| 2008-5 | Cutting Tools | | | | 2008/10/13 | Mecha. | | 520,795 |
| 1) | Ball-end Mill | | WXL-LN-EBD R1x35x6 | 10 | | | | |
| 2) | Ball-end Mill | | WXL-LN-EBD R0.5x22x6 | 10 | | | | |
| 3) | Ball-end Mill | | WXL-LN-EBD R1.5x40x6 | 10 | | | | |
| 4) | Ball-end Mill | | EBDL R3x110x40 | 10 | | | | |
| 5) | Ball-end Mill | | EBDL R4x120x50 | 10 | | | | |
| 6) | Ball-end Mill | | EBDL R5x140x60 | 10 | | | | |
| 7) | End Mill | | EXDL 6x90x50 | 10 | | | | |
| 8) | End Mill | | EXDL 8x120x80 | 10 | | | | |
| 9) | End Mill | | EXDL 10x125x80 | 10 | | | | |

List of Training Equipment & Software 2005-2008 *Construction

D&T Center Project - JICA

| No. | Item | Manufacturer | Model | Q'ty | Delivery | Dept. | SR | Yen |
|---|---|---|---|---|---|---|---|---|
| 2006-1 | CAD Software for Architecture | | | | 2006/10/17 | Const. | 19,000 | |
| 1) | Architecture Desktop 2007 EDU Single License | Autodesk | 18507-091462-9700 | 5 | | | | |
| 2) | Architecture Desktop 2007 EDU 10 Licenses | Autodesk | 18507-091462-9710 | 1 | | | | |
| 3) | Revit 9.1 Educational, Single License | Autodesk | 24107-091472-9700 | 5 | | | | |
| 4) | Revit 9.1 Educational, 10 Licenses | Autodesk | 24107-091472-9710 | 1 | | | | |
| 2006-2 | Construction Management Software | | | | 2006/12/2 | Const. | 2,396 | |
| 1) | MS-Project Pro 2007 EDU | Microsoft | H30-02065 | 5 | | | | |
| 2) | MS-Project Pro 2007 Disk Kit | Microsoft | H30-02116 | 1 | | | | |
| 2006-3 | Measurement Instrument | | | | 2006/12/17 | Const. | 5,000 | |
| 1) | Laser Range Meter | HILTI | PD30 | 2 | | | | |
| 2007-1 | Construction Management Software | | | | 2007/2/25 | Const. | 15,431 | |
| 1) | Primavera Project Management (P3e) V5 | Primavera | | 1 | | | | |
| 2007-2 | Construction Management Software | | | | 2007/6/25 | Const. | 9,806 | |
| 1) | Primavera Project Management | Primavera | | 1 | | | | |
| 2007-3 | Construction Management Software | | | | 2007/7/9 | Const. | 2,856 | |
| 1) | MS-Project Pro 2007 EDU | Microsoft | | 6 | | | | |
| 2) | MS-Project Pro 2007 Disk Kit | Microsoft | | 1 | | | | |
| 2007-2 | CAD Software for Architecture | | | | 2007/7/25 | Const. | 11,000 | |
| 1) | AutoCAD Architecture 2008 EDU 10 Pack | Autodesk | 18508-091462-9710 | 1 | | | | |
| 2) | AutoCAD Revit Architecture Suite 2008 EDU 10 Pack | Autodesk | 24108-091462-9710 | 1 | | | | |
| 2008-1 | Drawing Software | | | | 2008/5/25 | Const. | 15,430 | |
| 1) | Adobe Creative Suite 3 | Autodesk | | 10 | | | | |

List of Training Equipment & Software 2005-2008 *General

D&T Center Project - JICA

| No. | Item | Manufacturer | Model | Q'ty | Delivery | Dept. | SR | Yen |
|---|---|---|---|---|---|---|---|---|
| 2005-1 | Interactive Whiteboard | | | | 2005/10/7 | - | | 428,346 |
| 1) | SMART Tec Interactive Whiteboard | SMART Tec | SB580P | 1 | | | | |
| 2) | Whiteboard Stand | SMART Tec | FS570 | 1 | | | | |

付属資料7 【参考】技術短期大学及び在学生一覧（2008年11月現在）

College of Technology in Saudi Arabia

Number of Graduate 2008.11.10

| | | Department | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Name of College | Electric | Mechanic (Production) | Architecture & Civil | Mechanicical (Automobile, Aircon, Hydro-Pneumatic) | Computer | Administration | Electronics | Telecommunication | Environment | Tourism & Hotel | Chemistry | Special | Food Production | Food Processing | Number of Graduate |
| 1 | Abha | 44 | 11 | 46 | 25 | 55 | 108 | 27 | | | | | | | | 316 |
| 2 | Ahsa | | | | ✔ | | | | | | | | | | | No info |
| 3 | Ar'ar | | | | | 27 | 29 | 13 | | | | | | | | 69 |
| 4 | Baha | 24 | | | | 68 | 70 | | | | 4 | | | | | 166 |
| 5 | Bisha | | | | | 26 | 41 | 11 | | | | | | | | 78 |
| 6 | Buraida | 19 | 6 | | 28 | 35 | 125 | 15 | | | | | | | | 228 |
| 7 | Dammam | 61 | 25 | | 45 | 70 | 99 | 48 | | | | | | | | 348 |
| 8 | Dawadmi | | | | | 16 | 9 | 6 | | | | | | | | 31 |
| 9 | Hafr Al-Batin | | | | | 24 | 15 | 11 | | | | | | | | 50 |
| 10 | Hail | 48 | 28 | | | 62 | 143 | | | | | | | | | 281 |
| 11 | Jouf | 6 | | | | 51 | 63 | | 11 | | | | | | | 131 |
| 12 | Jeddah | ✔ | ✔ | ✔ | ✔ | | ✔ | | | | ✔ | | | | | No info |
| 13 | Jizan | 32 | 18 | | 17 | 39 | 49 | 17 | | 34 | | | | | | 206 |
| 14 | Khafj | | | | | | | | | | | | | | | No info |
| 15 | Khamis Mashit | | | | | 15 | 53 | | | 65 | | | | | | 133 |
| 16 | Kharj | 19 | | | | 53 | 14 | 24 | | | | | | | | 110 |
| 17 | Madinah | 30 | | | | 79 | | 7 | | | | | | | | 116 |
| 18 | Majmaa | | | | | 15 | 24 | 7 | | | | | | | | 46 |
| 19 | Makkah | 58 | | | 40 | 61 | 79 | | | | | | | | | 238 |
| 20 | Najran | 16 | | | | 51 | 36 | | | | | | | | | 103 |
| 21 | Onaizah | 13 | | 28 | 5 | | | | | | | | | | | 46 |
| 22 | Qatif | | | | | | | | | | | | | | | No info |
| 23 | Qunfuzah | | | | | 29 | 5 | 13 | | | | | | | | 47 |
| 24 | Qurayyat | | | | | 20 | 9 | | | | | | | | | 29 |
| 25 | Quwayiyah | | | | | | 57 | | | | | | | | | 57 |
| 26 | Rass | | | | | 55 | 85 | | | | | | | | | 140 |
| 27 | Riyadh | 66 | 32 | 79 | 58 | 81 | 240 | 72 | | 56 | | 111 | | | | 795 |
| 28 | Tabuk | 35 | | 41 | | 69 | 75 | 19 | | | | | | | | 239 |
| 29 | Taif | 26 | 27 | 71 | 8 | 103 | 47 | 35 | | | | | | | | 317 |
| 30 | Wadi Al-Dawasir | | | | | 27 | 32 | 18 | | | | | | | | 77 |
| 31 | Yanbu | | | | | 17 | | 15 | | | | | | | | 32 |
| 32 | Zulfi | 7 | | | 10 | 23 | 32 | | | | | | | | | 72 |
| 33 | Buraida/Agri | | | | | | | | | 36 | | | | 8 | 7 | 51 |
| 34 | Jeddah/Telecom | | | | | 88 | | 51 | 42 | | | | | | | 181 |
| 35 | Riyadh/Telecom | | | | | 115 | | | 45 | | | | 12 | | | 172 |
| 36 | Madinah/Tourism | | | | | | 29 | | | | 23 | | | | | 52 |
| Number of Graduates | | 504 | 147 | 265 | 236 | 1374 | 1568 | 409 | 98 | 191 | 27 | 111 | 12 | 8 | 7 | 4957 |

※第3セミスター卒業生（2008年6月）→ 1年間の卒業生はおよそ3倍になる