

**Higher Institute of Engineering, El-Shorouk City**

**Electrical Power and Machines Engineering Program**



**ELECTRICAL  
ENGINEERING**

**TRAINING COURSES**

**Guide**



**EPM**

**2024-2025**

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## **Introduction**

Field training is an important part of the educational process, and seeks to hone students' skills. It is one of the mandatory graduation requirements for students in the Electrical Power and Machines Engineering program, as field training is a basic requirement for graduation from the institute with the Electrical Power and Machines Engineering program. A specific number of hours are allocated in advance in the regulations for field training, which allows students the opportunity to apply the knowledge and skills they have acquired during their years of study in the college and develop their performance.

Field training also represents the processes through which field work is practiced using a set of foundations, with the aim of helping students acquire different knowledge, field experiences, and technical skills, in addition to modifying their personal traits and behaviors, so that this contributes significantly to the professional growth of students by linking theoretical knowledge with practical application, in addition to adhering to a training curriculum that is applied according to the specialization in each department in government institutions. And private sector institutions, with the necessity of professional and academic supervision from the institutions and the institute.

Field training is characterized by the fact that it is not applied within a specific area, but in more than one place. It may be in one of the institutions, companies, or ministries and in all governmental and civil sectors. A faculty member from the institute who is qualified in this field and has sufficient skills to implement the goal of field training works to guide the trainees.

Hence, the Electrical Power and Machines Engineering program sought to prepare this guide, which contains the most important rules and conditions for field training.

## **Importance of Field Training**

**Field training has a great importance in supporting the trainees, according to the the following points:**

1. It contributes to developing the skills of individuals participating in the training through their acquisition of training concepts.
2. It helps the trainee to have early contact with the labor market and employment agencies.
3. Helps support the practical aspect of the study materials.
4. Provides trainees with practical experience in the field in which they are studying or will work in the future.
5. Enhances cooperation between individuals participating in field training.
6. It works on changing the routine followed in giving academic lectures.

## **Student Training Mechanism**

1. The Scientific Department Council determines the training fields according to the training curricula for each academic year in the regulations and announces them to the students.
2. The department communicates and coordinates with some training destinations, reputable destinations and companies known for their efficiency, to present the training opportunities available to students.
3. Opening registration for students who wish to participate in training at the entities provided by the department
4. The student is allowed to train with other training entities that he knows, other than those that the department has coordinated with, provided that he adheres to the conditions announced by the department in this regard, and that the department's approval for the training is obtained before starting and submitting it.
5. Preparing a training plan that specifies the time frame, training period, and training supervisors from among the faculty members and auxiliary staff.
6. Announcement of training plan for students.
7. Follow up on students at the training site through training supervisors.
8. Training evaluation by the training authority and an oral/written exam by the training supervisors, provided that the students are notified of the requirements that must be met during the evaluation before the start of the training.
9. Registering training scores on the program.
10. Announcing the training grades for students and opening the door for grievances regarding the grades within a period of one week from the date of the announcement.
11. Announcing the results of grievances within a week of closing the grievances period.

12. Registering the final grades after completing all grievances and announcing the final result to the students.
13. Print the students' grades report in the training course, approve it, and send it to the relevant control.
14. Training supervisors prepare the training file for each training course after fulfilling all the required requirements and submitting it to the program's quality committee.
15. Presenting the training questionnaire to students, analyzing it, presenting it and discussing it in the scientific department council.
16. Training supervisors shall prepare a final report on the training activities and submit it to the head of the scientific department council.

## **Training Supervision**

There is a training committee responsible for.....

1. The head of the training committee of the program is the general supervisor of the training.
2. The program's training committee divides students into groups according to the number of students in each year and training locations.
3. The relevant program council assigns faculty members and assistants to supervise and follow up on field training, with one supervisor for each group.
4. The supervisor of each group shall conduct field visits to the students' training locations, follow up on the training program, and prepare a follow-up report to be submitted to the relevant program council.
5. The academic departments grant a separate certificate stating that the student has passed the field training, specifying the duration and destination of the training, the student's evaluation based on the discussion of the training examination

committee, the report submitted by the student, and the report of the student's follow-up during the training.

6. Training locations are evaluated through questionnaires to know the students' opinion of the training center as well as the student's evaluation of the training center.
7. There is a training committee that organizes and documents all training activities.

### **Training Evaluation**

1. The student prepares an engineering report summarizing the skills and knowledge acquired by the student and everything he has been trained on during the training period.
2. Forming a committee of faculty members based on the proposal of the relevant academic departments.
3. The date of the students' discussion shall be determined by an announcement in the academic departments (beginning of the academic year), and the names of the students and the examination committee shall be specified in the announcement.
4. The student submits to the discussion committee the report and a certificate from the entity where he trained, proving his attendance during the specified period.
5. The student submits the questionnaires in the training file to the committee. The questionnaires for training centers must be approved by the training center.
6. The discussion results are collected in the office of the head of the department council in preparation for approval and sending them to the relevant control units.
7. The student is awarded a certificate stating that he has completed the training.

## **Training Entities**

1. The program announces at the beginning of the second semester the available training locations that have been previously dealt with .
2. The program provides the opportunity for each student to choose the training location he desires, which is close to his place of residence and which suits his specialization.
3. The capabilities of the different training sites must be taken into consideration in terms of the number of students that these places can accommodate for training.
4. The student receives a letter approved by the head of the training committee in the program, stating the student's name and the place where he wishes to perform the training, to be submitted to the training entity.
5. Some training places require consolidated lists of students' names. In this case, the student registers his name in the office of the head of the training committee in the program, and the scientific program council sends these lists to the training entity.

## **Goals of Field Training**

**Field training programs adopt specific objectives that must be achieved, including**

1. Providing students with practical and training experience to experience the real and realistic work environment before obtaining an academic qualification.
2. Students are introduced to the labor market and its requirements directly.
3. Supporting aspects of professional, applied and training practice for students that are directly and indirectly related to the various specializations in the program.
4. Training students to bear responsibility, adhere to deadlines, and respect regulations and laws.
5. Training students to work within work groups, training them in the art of dealing with others, and developing skills in building professional relationships.



6. Enabling governmental and civil entities to identify students' skills and attract them for employment if they prove their abilities and skills.
7. Informing colleges of the requirements of the labor market, so that the study plans can be updated to meet the actual needs of the labor market.
8. Strengthening cooperation and exchange of expertise between the university, institutes and training bodies.
9. Gaining new knowledge and skills to achieve proper understanding of the study material, such as: clarifying ideas related to the lesson.
10. Developing students' ability to learn independently and be self-reliant.
11. Developing students' practical skills in searching for, classifying and arranging information through preparing a report related to field training.
12. Building self-confidence among students.
13. Preparing students to face the reality of job work by acquiring communication skills and dealing with their colleagues or dealing with the public through their dealings with the employees of the institution in which they trained.
14. The ability to apply the examples included in the study material in a practical way, and to have it followed up by the field training supervisor, or his representative.
15. Providing proper guidance to the trainee.
16. Introducing trainees to the professional values specific to the activity they are training in.
17. Helping to clarify the strengths and weaknesses of each trainee.
18. Enabling the trainee to test his personal skills, in order to determine the extent of his progress in field training.
19. Students acquire the skills of regularity, accuracy and speed in completing work and how to deal with work problems in the field.

### **Skills Acquired from Field Training**

1. **Learning by objectives:** It is the design of training to focus on the specific objectives of learning; as training programs need to have specific objectives that must be achieved by trainers, and they are linked to the basic skills that trainees need to become successful in their jobs.
2. **Participation:** It is one of the effective characteristics of all training programs; as it is concerned with activating the role of participation among all participating

individuals. This participation depends on implementing exercises and sessions that help enhance cooperation among trainees; through implementing many roles and activities that include solving problems.

3. **An opportunity to share experiences:** Training focuses on exchanging experiences between trainees, which contributes to enhancing understanding of new concepts that can be reviewed and discussed.
4. **Training is an enjoyable means:** Training makes learning and teaching very enjoyable means. It may depend on using games or applying creative activities, which contributes to enhancing enjoyment among trainees while learning new skills.
5. **Acquiring new technical skills:** Field training helps to acquire basic skills and learn about modern and new technology.
6. **Acquiring communication skills:** Field training contributes to trainees acquiring communication skills and dealing with others through direct contact with employees and the public.

## **Field Training Mechanism**

- **Field Training and Institute's Regulation**

1. The Scientific Department Council determines the training fields according to the training curricula for each academic year in the regulations and announces them to the students.
2. The department communicates and coordinates with some training destinations, reputable destinations and companies known for their efficiency, to present the training opportunities available to students.
3. Opening registration for students who wish to participate in training at the entities provided by the department.
4. The student is allowed to train with other training entities that he knows, other than those that the department has coordinated with, provided that he adheres to the conditions announced by the department in this regard, and that the department's approval for the training is obtained before starting and submitting it.

5. Preparing a training plan that specifies the time frame, training period, and training supervisors from among the faculty members and auxiliary staff.
6. Announcement of training plan for students.
7. Follow up on students at the training site through training supervisors.
8. Training evaluation by the training authority and an oral/written exam by the training supervisors, provided that the students are notified of the requirements that must be met during the evaluation before the start of the training.
9. Registering training scores on the program.
10. Announcing the training grades for students and opening the door for grievances regarding the grades within a period of one week from the date of the announcement.
11. Announcing the results of grievances within a week of closing the grievances period.
12. Registering the final grades after completing all grievances and announcing the final result to the students.
13. Print the students' grades report in the training course, approve it, and send it to the relevant control.
14. Training supervisors prepare the training file for each training course after fulfilling all the required requirements and submitting it to the program's quality committee.
15. Presenting the training questionnaire to students, analyzing it, presenting it and discussing it in the scientific department council.
16. Training supervisors shall prepare a final report on the training activities and submit it to the head of the scientific department council.

- **Training Entities**

1. The program announces at the beginning of the second semester the available training locations that have been previously dealt with .

2. The program provides the opportunity for each student to choose the training location he desires, which is close to his place of residence and which suits his specialization.
3. The capabilities of the different training sites must be taken into consideration in terms of the number of students that these places can accommodate for training.
4. The student receives a letter approved by the head of the training committee in the program, stating the student's name and the place where he wishes to perform the training, to be submitted to the training entity.
5. Some training places require consolidated lists of students' names. In this case, the student registers his name in the office of the head of the training committee in the program, and the scientific program council sends these lists to the training entity.

- **Supervision, follow-up and evaluation of training**

1. The head of the training committee of the program is the general supervisor of the training.
2. The program's training committee divides students into groups according to the number of students in each year and training locations.
3. The relevant program council assigns faculty members and assistants to supervise and follow up on field training, with one supervisor for each group.
4. The supervisor of each group shall conduct field visits to the students' training locations, follow up on the training program, and prepare a follow-up report to be submitted to the relevant program council.
5. The academic departments grant a separate certificate stating that the student has passed the field training, specifying the duration and destination of the training, the student's evaluation based on the discussion of the training examination committee, the report submitted by the student, and the report of the student's follow-up during the training.

6. Training locations are evaluated through questionnaires to know the students' opinion of the training center as well as the student's evaluation of the training center.

- **Final Report and Discussion**

1. The student prepares an engineering report summarizing the skills and knowledge acquired by the student and everything he has been trained on during the training period.
2. Forming a committee of faculty members based on the proposal of the relevant academic departments.
3. The date of the students' discussion shall be determined by an announcement in the academic departments (beginning of the academic year), and the names of the students and the examination committee shall be specified in the announcement.
4. The student submits to the discussion committee the report and a certificate from the entity where he trained, proving his attendance during the specified period.
5. The student submits the questionnaires in the training file to the committee. The questionnaires for training centers must be approved by the training center.
6. The discussion results are collected in the office of the head of the department council in preparation for approval and sending them to the relevant control units.
7. The student is awarded a certificate stating that he has completed the training.

- **General Instructions for Students**

1. Before starting the training, the student must be familiar with the basic and important information about the training location in terms of the type and nature of work, office work, technical work, the product of this institution or factory, and the available occupational and health safety factors.
2. Follow all instructions and rules within the training sites.
3. Do not overburden the workers at the training sites, understanding that they have other important tasks to do.
4. Study and analyze everything he is trained on from a technical perspective, with the necessity of paying attention to collecting the necessary elements to prepare the final report before the end of the training period.
5. Your training should not be limited to the technical aspect, but you should know the importance of the administrative aspect, human relations, occupational safety sources, and the intermediary factors associated with the activity of the training site, and all other aspects that together constitute the work environment.

- **Training File**

It is a file for the student that contains all the required documents related to training, such as:

1. Letter from the Scientific Program to the Training Center.
2. Questionnaires for training center evaluation.
3. Questionnaires required to evaluate the student's performance during the training period.
4. A certificate of completion of the training, which is filled out when the student takes the exam and approved by the head of the scientific department council.

## **Training Committee**

- **Vision of the Field Training Committee of the Program**

The field training unit of the program seeks to develop students' capabilities and qualify them in professional and practical aspects to keep pace with the rapid and successive developments of the labor market in society and advance it.

- **Message of the Field Training Committee of the Program**

Providing the opportunity for the program students to increase their competitive skills and their ability to meet the changing requirements of the labor market and providing wider opportunities for field training that gives students the skills of the graduate's ability to adapt to circumstances, variables, needs and crises and his speed in finding the most appropriate solutions to deal with them, in order to graduate an engineer capable of creativity, excellence and the advancement of his institution.

- **Approval of the Field Training Committee**

Field Training Committee approved:

Department Council No. 11 dated 8/8/2022

- **Goals**

Improving the quality of internal and field training for students.

- **Tasks**

- Communication with scientific departments
- Communication with companies and training places
- Follow up on the implementation of the training mechanism

- Study the needs of labor market institutions in the specialization and their ability to accommodate training students and train them according to the program prepared by the program.
- Prepare a database of entities, companies and factories cooperating with the scientific program in the field of practical training.
- Hold meetings with various labor market institutions and correspond with them in sufficient time to coordinate with them to accept trainee students.
- Determine the start date of registration for field training and announce it to students.
- Distribute trainee students to companies and production institutions according to the criteria determined by the relevant scientific department.
- Distribute supervisors to groups of trainee students.
- Hold lectures for students before the start of training to guide them through the training process and familiarize them with their rights, duties and obligations.
- Follow up on trainees and supervisors and ensure the smooth running of the training process.
- Hold a meeting with supervisors and inform them of everything new.
- Receive reports and questionnaires received at the end of the training process.

- **Organizational Structure**

1. Committee Chairman: General Supervisor
2. Committee Rapporteur
3. Members: Faculty representatives from each program
4. Student Representative: Student Representative
5. Unit Administrator

**Current Structure**

Dr. Mahmoud Ahmed Elghorab	Chairman
Dr. Bassam Wasfi	Rapporteur
Dr. Mohamed Edries	Member



Dr. Khalil El KHamesi	Member
Eng. Mohamed Mokhtar	Member
Eng. Eman Mohamed Esmaeel	Member
Eng. Sama Saeed	Member
Eng. Shefaa Atea	Member
Eng. Menatallah Nabil	Member
Eng. Anhar Ebrahim	Member

## **Participation of Community Parties in-Field Training Programs**

### **• Participation of Community Parties in Training Programs**

1. Community parties (factories - hospitals - institutions - companies) participate in training college students by providing them with training opportunities according to different specializations.
2. Letters are sent to companies to find out the possibility of training the student in them.
3. Some companies respond to the institute's letter, explaining the number of students and the specializations available for training.
4. The program announces at the beginning of the second semester the available training places that have been dealt with previously.
5. The program provides the opportunity for each student to choose the training place he wants, which is close to his place of residence and which suits his specialization.
6. The capabilities of the different training sites must be taken into account in terms of the number of students that these places can accommodate for training.
7. The student obtains a certified letter from the office of the head of the department council indicating the student's name and the place where he wants to perform the training, in order to submit it to the training authority.

8. Some training places request consolidated lists of students' names, in which case the student registers his name in the office of the head of the department council and the institute sends these lists to the training authority.
9. In the case of expatriate or incoming students; it is possible that The student completes the training and then brings a certificate stating the completion of the training and the time period.

• **Participation of Student Evaluation**

1. Field training evaluation was limited to:
  - The engineering report prepared by the student, which explains what was trained during the training period.
  - A certificate from the entity where he was trained proving his attendance during the specified period.
  - Discussing with the student the skills he acquired and what was trained during the training period.
2. A mechanism for supervision, follow-up and evaluation was adopted that allows the evaluation of student performance during the training period (it began operating in the summer of 2023).
3. In this new mechanism, there are questionnaires for the training site supervisor to evaluate student performance during the training period and it will be approved by the centers.
4. The scientific departments grant a separate certificate stating that the student has passed the field training, specifying the period and destination of the training and the student's evaluation based on the discussion of the training examination committee and the report submitted by the student and the Student's follow-up report during the training.

**Field Training Form for Students of Grade.....**  
In the Electrical Power and Machines Engineering program, Higher Institute  
of Engineering, Shorouk

**Objective:**

The purpose of this form is to clarify the principles of evaluating the performance of trainees from the second-year students in the Electrical Power and Machines Engineering program at the Higher Institute of Engineering in Shorouk.

**General Information:**

The trainer provides guidance, aids, illustrations, samples, etc. that enable the trainee to achieve the objectives in light of:

- The scientific content of the training courses is Appendix.)1(
- The detailed description of the training courses is Appendix)2(

### **Training procedures:**

1. The trainee completes the data of the first and second parts of the evaluation items.
2. The training body is responsible for completing the third part.
3. The evaluation must be discussed between the supervisor and the trainee.
4. Both the supervisor and the trainee record the date and sign after discussing the evaluation.

### **Documentation Terms:**

- Stamp of the training authority
- Signature of the training supervisor

### **Rating scale:**

- Highly acceptable.
- Good acceptable.
- Acceptable.
- Somewhat acceptable.
- Not acceptable.

## **Evaluation Terms**

### **Part One: Detailed Information (to be filled in by the trainee-student)**

1	Student Name	
2	Scientific Department	
3	Training Course and Code Number	
4	Training Entity	
5	City and Country where The Training Took Place	
6	Training Supervisor Name	
7	Training Entity Address	
8	Training Supervisor Phone Number	
9	Training Supervisor E-mail	
10	Training Duration	

Scientific section seal after reviewing data from (1) to)5(

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**Part Two: A brief description of what happened during the training period and the percentage of completion of the training course contents (to be filled out by the trainee)..... :**

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**Part Three: Evaluation and comments from the direct supervisor (to be completed by the training body):**

<b>Measured skills</b>	<b>Highly Acceptable</b>	<b>Good Acceptable</b>	<b>Acceptable</b>	<b>Somewhat Acceptable</b>	<b>Not Acceptable</b>
<b>Degree of comprehension of the training course contents</b>					
<b>Level of practical application of the course contents</b>					
<b>Academic information level</b>					
<b>computer skills</b>					
<b>Ability to complete required tasks and applications</b>					
<b>Problem solving and logical thinking ability</b>					
<b>Level of accuracy in completing work and training tasks</b>					
<b>Speed level of completion of work and training tasks</b>					

<b>Effective communication with supervisor</b>					
<b>Active participation in teamwork</b>					
<b>Ability to adapt to changes</b>					
<b>Ability to work under pressure</b>					
<b>Trainee Evaluation / 25 points</b>					

**Conclusion:**

**Trainee capabilities and recommendation for future training for the trainee (to be filled out by the training authority).....:**

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**General classification (to be filled in by the training provider):**

<b>Not Acceptable</b>	<b>Somewhat Acceptable</b>	<b>Acceptable</b>	<b>Good Acceptable</b>	<b>Highly Acceptable</b>
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<b>Classification</b>	<b>Yes</b>	<b>No</b>
<b>Does the student need additional training period?</b>		
<b>Does the student meet the employment requirements of your company?</b>		

➤ **Please state the reasons if the answer is (No)**

Date and Supervisor Signature

Trainee Signature

Training Entity Stamp: