

## CORSAT EDUCATION MANAGEMENT SYSTEM (CEMS)

Corsat Education Management system (CEMS) is built to manage distributed training processes through the internet. The system is composed of different interdependent modules where each different user profiles is only allowed the access of defined modules. First user profile is the “Administrator” profile that is entitled for setting up the basic data of the system. The “Administrator” profile is also in charge of managing other user profiles of the system and authorizing them to access the different system modules.

The second profile is the “Project Manager” profile that is responsible for setting up and managing training projects through out the system. The “Project Manager” is responsible for setting up the tracks used in the project, participating training partners/locations, and design of used evaluation sheets. Through a set of modules the “Project Manager” follows up the progress and status of the different components of the project such as courses, schedules, instructors, attendance, evaluations, complaints etc...

The third profile is the “Training Center” profile that is responsible for the day-to-day management of the training being run in this center or location. The profile sets up basic data of the center such as assets, classes, schedules, instructors and trainees. On the other hand, this profile is responsible for entering the attendance of instructors and trainees, course evaluations, exam grades and monitoring the whole progress of the training process in this location.

The fourth profile is the “Instructor” profile where defined instructors may follow up their scheduled courses. Through this profile, instructors also revise their attendance and list trainees’ profiles and basic data.

The fifth and last module is the “Trainee” module where trainees can revise their schedules and their attendance reports. On the other hand, trainees use this profile to access the add evaluation module to enter their course evaluations. They may also use this profile to submit complaints to the project management in order to solve their problems and facilitate the training process.

The following is a detailed list of CEMS functionality as per the current status:

### **A- Administrator Profile**

#### **1- Setup Users data**

- ❖ To add, update and delete users of the following profiles:
  - i. Administrator
  - ii. Project
  - iii. Training center

#### **2- Setup User privileges**

- ❖ Each user is assigned some or all of the privileges and functionality of its profile.

**3- Setup Geographic Basic Data**

- ❖ Setup the basic geographic data of the system such as:
  - i. Countries
  - ii. Cities
  - iii. Districts

**4- Setup Universities and Faculties**

- ❖ Setup the basic educational data of the system such as:
  - i. Universities
  - ii. Faculties

**5- Setup Projects**

- ❖ Define the projects that will be managed by this system

**6- Setup Phases**

- ❖ Define phases of each project
- ❖ Maintain Phases data

**7- Setup Sessions**

- ❖ Define and maintain different training sessions and their timings

**8- Setup Evaluations**

- ❖ Define and maintain Evaluation items
- ❖ Define and maintain Evaluation subjects
- ❖ Define and maintain instructor evaluation items

**9- Setup Certifications**

- ❖ Define Certification publishers
- ❖ Define certifications and assign them to publishers
- ❖ Maintain certification owners data
- ❖ Maintain certifications data

**10- Setup Tracks**

- ❖ Define track names that will be used in this system

**11- Setup Track Requirements**

- ❖ Define and maintain different track requirements and prerequisites such as:
  - i. Software
  - ii. Hardware
  - iii. Exams

**12- Setup Course category**

- ❖ Define and maintain different courses categorization

**13- Setup Courses**

- ❖ Define and maintain courses data

**14- Setup Training Centers**

- ❖ Define and maintain Training Centers data

### **15- Setup Instructor Approvals**

- ❖ Approve the candidate instructors that the training centers define to the system permitting them to participate in the project and giving them access to the system

### **16- Upload Trainees**

- ❖ This module is a batch module to upload large number of trainees into the system in one click. It allows user to download an excel file template, fill in the data and then upload the file back into the system.

## **B- Project Manager Profile**

The first step after logging into the system with this profile is to select the project and phase to which the project manager would like to log. The following is a list of module functionality available for this profile

### **1- Training Center Setup**

- ❖ Assign/de-assign training centers from project and phase
- ❖ Assign/de-assign tracks to training centers
- ❖ Review training centers contact details

### **2- Track Design**

- ❖ Assign tracks to phase.
- ❖ Assign course-categories to tracks.
- ❖ Assign courses to course-categories and define labs and timings for each course.

### **3- Setup Evaluation Subjects and Items**

- ❖ Assign trainees' evaluation subjects to the current phase.
- ❖ Assign trainees' evaluation items to assigned subjects in the current phase.
- ❖ Assign instructors' evaluation subjects to the current phase.

### **4- Follow up Courses Schedule**

- ❖ Monitor and follow up courses schedule

### **5- Instructors Reports**

- ❖ Attendance of instructors of each center
- ❖ Instructors Schedule.

### **6- Evaluation Reports**

- ❖ Courses evaluation summary
- ❖ Tracks evaluation summary report

### **7- Instructor Basic Data Report**

- ❖ List of instructors and their profiles

### **8- Trainees reports**

- ❖ Search trainees
- ❖ List trainees
- ❖ Trainees attendance

**9- Trainees complaints**

- ❖ Monitor and follow up on trainees complaints to ensure smoothness of operations

### **C- Training Center Profile**

The first step after logging into the system with this profile is to select the project and phase to which the training center executive would like to log. The following is a list of module functionality available for this profile

**1- Maintain Center Assets**

- ❖ Define and maintain center assets and equipment

**2- Setup Class Data**

- ❖ Define and maintain classes' basic data and capacity
- ❖ Assign classes to tracks

**3- Progress Report**

- ❖ A monthly progress report reflecting all scheduled courses, attendance, evaluations, complaints and status

**4- Maintain Course Evaluation Methods**

- ❖ Define and maintain course evaluation methods data
- ❖ Assign course evaluation methods to tracks
- ❖ Enter evaluation grades

**5- Maintain course schedule**

- ❖ Define and maintain course schedules

**6- Schedule Reports**

- ❖ Report class schedules
- ❖ Monitor actual schedules to planned ones

**7- Maintain instructor attendance**

- ❖ Register attendance of instructors

**8- Maintain Instructor**

- ❖ Define Instructors and details their data such as:
  - i. Names
  - ii. Certificates
  - iii. Contacts
  - iv. Etc...

**9- Instructor Schedule**

- ❖ Define, maintain and monitor instructors' schedules

**10- Phase contents**

- ❖ List courses of this phase and their details

**11- Maintain Exam Grade**

- ❖ Register and maintain exam grades

**12- Assign Trainees to Classes**

- ❖ Assign trainees to classes to the limited capacity of each class

**13- Maintain Trainee attendance**

- ❖ Register and report trainees' attendance

**14- Search Trainee**

- ❖ List and search for trainees

### **D- Instructor Profile**

The first step after logging into the system with this profile is to select the project and phase to which the instructor would like to log. The following is a list of module functionality available for this profile

**1- Instructor Schedule**

- ❖ To view scheduled courses to the instructor per phase in training center.

**2- Instructor Attendance**

- ❖ To review attendance per phase in training center.

**3- Trainees Data**

- ❖ To view trainee's data for each class in current phase

### **E- Trainee Profile**

**1- Course Schedule**

- ❖ To browse and review course name, start, end date, assigned instructor, status and the exam grade for each schedule course.

**2- Attendance**

- ❖ To review absence days during the course.

**3- Add Evaluation**

- ❖ To add evaluations to the course, training center, instructor and any other related items.

**4- Add complaints**

- ❖ To submit any complaints to project management

## **GRAPHICAL USER INTERFACE**

The system is designed using a template design in order to be easily tailored to the intranet or extranet of any training organization. The basic interface design will be approved by the training organization before being applied to the system. Links to static informational pages and or other systems of the intranet or extranet may also be applied on the template design.

## **TECHNICAL ARCHITECTURE**

CEMS is developed using JSP and it needs the server to be equipped with the following to run:

- 1) Application Server
  - i. Web Sphere Application Server
  - ii. Apache Tomcat
- 2) Relational Database
  - i. DB2
  - ii. MS-SQL
  - iii. Oracle