

**FIELD : ELECTRICAL AND ELECTRONIC ENGINEERING**  
**SPECIALTY : ELECTRICAL POWER SYSTEM (EPS)**

## **1. OBJECTIVE OF TRAINING**

Electric Power Technology is an instructor-led program sponsored by the Energy Providers Coalition for Education and developed for current and future electric utility workers. This program teaches students the components, design and operation of the electrical system and the equipment and safety procedures used when working with electricity. After completion of the core courses, students choose a specialisation area to pursue such as line construction, metering, substation or system design. Classes begin every three to five weeks throughout the year.

## **2. RESEARCH SKILLS**

### **❖ Generic skills**

- Work independently and in team collaboration ;
- Analyse, synthesise professional documents (French, English) ;
- Orally and writing communication (French, English) ;
- Participate in (other) lead project management process ;
- Know and exploit professional and institutional networks of electricity sectors.

### **❖ Specific skills**

- Explain all of these points in detail and provide you with the skills and knowledge necessary to calculate fault currents ;
- Select relays and associated instrument transformers appropriate to each typical system or equipment ;
- You will also learn how to adjust the setting of the relays so that the relays closest to the fault will operate and clear the fault faster than the backup devices.

## **3. CAREER OPPORTUNITIES**

- Research and development industries ;
- Engineering services firms ;
- Manufacturing ;
- Maintenance technician installing electronic systems ;
- Design office designer ;
- Team leader in production unit ;
- Engineer assistant (measurements, tests and controls) ;
- After Sales Service Manager ;
- Industrial production companies ;
- Maintenance company of aeronautic production sites, industry.

## **4. PROGRAM DURATION**

For a period of two years, a set of theoretical and practical courses is administered to students with a view to obtaining a Higher National Diploma (NHD) sanctioned by MINESUP.

## 5. CONDITION FOR ADMISSION

### Direct registration on file study :

- A hand written application adressed to the Director of SOUTH POLYTECH ;
- A complete registration form available on campus ;
- A photocopy of birth certificate ;
- A photocopy of A/L certificate ;
- Registration fees : 35,000 FCFA ;
- File study fees : free of charge ;
- Annual medical coverage : 5,000 F CFA.

## 6. PEDAGOGICAL APPROACH

- Lectures ;
- Practical work and personal work ;
- Immersion courses in the professions accompanied by a teaching body and company executives.

## 7. EVALUATION TECHNIQUES

- Continuous monitoring for each lecture ;
- An exam session (oral or written) at the end of each semester organised according to the subjects registered for the semester ;
- Writing of an internship report defended in front of a jury at the end of the cycle ;
- National HND exam.

## 8. ORGANISATION OF TEACHINGS

### FIRST SEMESTER

Code	Course titles	Number of credits
EPS111	Mathematics I	4
EPS112	Physics and chemistry	5
EPS113	Electrical Industry Safety	4
EPS114	Electrical Material Science	5
EPS115	Electrical System Components	4
EPS116	Electric Power Systems and Industrial Safety	5
EPS117	Bilingual training	3
<b>Total</b>		<b>30</b>

### SECOND SEMESTER

Code	Course titles	Number of credits
EPS121	Mathematics II	5
EPS122	Physics and computer Science	4
EPS123	Electrical Circuit Theory I&II	5
EPS124	Electrical Design and Drafting	4
EPS125	Digital Communication	4
EPS126	Electric Machines	5
EPS127	Business creation, Civic and moral Education	3
<b>Total</b>		<b>30</b>

### THIRST SEMESTER

Code	Course titles	Number of credits
EPS231	Mathematics III	4
EPS232	Physics and chemistry	5
EPS233	Electrical System Protection	4
EPS234	Digital Communication II / Pneumatic Instrumentation	5
EPS235	Electrical Systems and System Design Analysis	4
EPS236	Electrical Measurement and Control	5
EPS237	Accounting and labour law	3
<b>Total</b>		<b>30</b>

### FOURTH SEMESTER

Code	Course titles	Number of credits
EPS241	Mathematics IV	4
EPS242	Computer Science	5
EPS243	Metering Technology	4
EPS244	Electrical Industry and Power Grid	4
EPS245	Overhead Transmission and Distribution Line Construction	4
EPS246	Internship	6
EPS247	Economics	3
<b>Total</b>		<b>30</b>