ELECTRONICS &

COMMUNICATION ENGINEERING

COURSES

Contents

Arab Academy for Science, Technology and Maritime Transport

Training Course Information Form

Course Information

Course Name: **Global Maritime Distress and Safety System (G.O.C.)**

Institute/Centre: **College of Engineering and Technology** **Department:** **Electronics and Communication**

Type: ❑ Program ■ Course ❑ Workshop

Course Duration: ❑ 5 days ❑ 3 days ❑ 1 days ■ Other: 10 days

Course Conducted: ■ Local ❑ International

Indicate: ----------

Course Venue: **6 days (electronic dept.) and 4 days (simulator)**

Course Language: ❑ English ❑ Arabic ■ Both ❑ Other: ----------

Course Description

Course Outlines:

- **Introduction.**
- **Principles of maritime radio communications.**
- **GMDSS communication systems.**
- **Other GMDSS equipment.**
- **Distress alerting.**
- **Miscellaneous skills and operation procedures for general communications.**
- **Assessment and discussion.**

Course Objectives:

A trainee successfully completing this course and passing the prescribed examination will be enabled to efficiently operate the GMDSS equipment, and to have primary responsibility for radio communications during distress incidents. Given the severe problems being experienced in the GMDSS as a result of the large number of false distress alerts that now occur, training will also be provided in techniques to avoid the unintentional transmission of false alerts and the procedures to use in order to mitigate the effects of false distress alerts following unintentional transmission.

Training Course Information form

Learning outcomes:

- **Ability to efficiently operate the GMDSS equipment.**
- **Primary responsibility for radio communications during distress incidents.**
- **Avoid the unintentional transmission of false alerts.**

Course includes:

■ Theoretical ❑ Tutorial ■ Laboratory ❑ Workshop ❑ Site Visit

Course Prerequisites:

None

Who should attend:

- **Master of ship.**
- **Deck officers.**
- **Radio officers.**
- **Radio operators.**

Course References:

- **I.M.O. Model course.**
- **Master plane of the shore based facilities for the GMDSS.**
- **GMDSS hand book.**
- **Standard marine communication phrases.**
- **STCW code.**
- **MERSAR manual.**
- **International convention for the SOLAS 1974, as amended.**

No. of Participants/course:

❑5-10 ■10-15 ❑15-20 ❑other: ----------

Qualifications of Participants:

- **Higher education.**
- **Little knowledge of maritime radio communication.**
- **Average English.**
- **Elementary computer skills.**

No. of Lecturer:

❑1 ❑2 ■ 3

No. of Assistance:

❑1 ■2 ❑ 3

Course Facilities

■ White Board ❑ V. Projector ❑Data show ❑ PC ■ Manual ■ Handouts
❑ Books ❑ Handouts ❑Flip charts ■ S/W ❑Other: ----------

Course Evaluation

■ Written Examination ❑ Written Report(s) ❑ Oral Presentation ■ Attendance
❑ Delegates Participation

Certificate Issue:

❑ Local Premises ■ AASTMT ❑ International

Course Registration

Registration:	■ AAST Admission Registration	❑ Online	❑ Other: ----------
Sponsor:	■ Individual	■ Funded By: different organizations	
Fee's:	■ L.E. 990	■ $. 300	■ Other: $ 600 (for funded)
Documents required:	■ Registration form	❑ ID/Passport copy	❑ Photo

Arab Academy for Science, Technology and Maritime Transport

Training Course Information Form

Course Information

Course Name: **Global Maritime Distress and Safety System (maintenance)**

Institute/Centre: **College of Engineering and Technology** **Department:** **Electronics and Communication**

Type: ❑ Program ■ Course ❑ Workshop

Course Duration: ❑ 5 days ❑ 3 days ❑ 1 days ■ Other: 10 days or 15 days

Course Conducted: ■ Local ❑ International

Indicate: ----------

Course Venue: **8 days (electronic dept.) and 7 days (simulator)**

Course Language: ❑ English ❑ Arabic ■ Both ❑ Other: ----------

Course Description

Course Outlines:

- **Analog and digital Communication.**
- **Antennas and wave propagation.**
- **Electronic components and circuits.**
- **GMDSS console connections**
- **GMDSS Batteries and power supplies.**
- **GMDSS error codes.**
- **GMDSS software maintenance.**
- **GMDSS fault detection.**

Course Objectives:

A trainee successfully completing this course and passing the prescribed examination will be enabled to efficiently maintenance the GMDSS equipment, and to have primary responsibility for radio communications equipment. Training will also be apple to avoid the troubles in both software and hardware in the GMDSS equipment.

Learning outcomes:

- Ability to efficiently maintenance the GMDSS equipment.
- Ability to efficiently detect the troubles and repair the GMDSS equipment.

Course includes:

■ Theoretical ❑ Tutorial ■ Laboratory ■ Workshop ❑ Site Visit

Course Prerequisites:

- GMDSS (GOC) certificate.

Who should attend:

- Electronic radio officers. **- Maintenance officers.**

Course References:

- I.M.O. model course. **- Technical manuals of GMDSS equipment**
- GMDSS hand book. **- Service manuals of GMDSS equipment.**
- Newkirk, David and Karlquist, Rick (2004). Mixers, modulators and demodulators. In D. G. Reed (ed.), *The ARRL Handbook for Radio Communications* (81st ed.), Newington: ARRL. ISBN 0-87259-196-4.
- Etc Larry .d.simmons etc Floyd L.ace III Antennas and wave propagation 1995.

No. of Participants/course:

■ 5-10 ❑ 10-15 ❑ 15-20 ❑ other:

Qualifications of Participants:

- Knowledge of maritime radio communication.
- Good English. **- Good computer skills.**
- Maintenance experience.

No. of Lecturer:

❑ 1 ■ 2 ❑ 3

No. of Assistance:

❑ 1 ■ 2 ❑ 3

Course Facilities

■ White Board ■ V. Projector ❑ Data show ❑ PC ■ Manual ■ Handouts
❑ Books ❑ Handouts ❑ Flip charts ■ S/W ❑ Other: ----------

Course Evaluation

■ Written Examination ❑ Written Report(s) ■ Oral Presentation ■ Attendance
❑ Delegates Participation

Certificate Issue:

❑ Local Premises ■ AASTMT ❑ International

Course Registration

Registration:	■ AAST Admission Registration	❑ Online	❑ Other:
Sponsor:	❑ Individual	■ Funded By: different organizations	
Fee's:	❑ L.E.	■ $. 1000 for 10 days &1200 for 15 days	❑ Other:
Documents required:	■ Registration form	❑ ID/Passport copy	❑ Photo

Arab Academy for Science, Technology and Maritime Transport

Training Course Information Form

Course Information

Course Name: Global Maritime Distress and Safety System (refreshment)

Institute/Centre: College of Engineering and Technology **Department:** Electronics and Communication

Type: ❑ Program ■ Course ❑ Workshop

Course Duration: ■ 5 days ❑ 3 days ❑ 1 days ❑Other:

Course Conducted: ■ Local ❑ International

Indicate: ----------

Course Venue: 3 days (electronic dept.) And 2 days (simulator)

Course Language: ❑ English ❑ Arabic ■ Both ❑ Other: ----------

Course Description

Course Outlines:

- GMDSS communication systems.
- Other GMDSS equipment.
- Distress alerting.
- Miscellaneous skills and operation procedures for general communications.
- Assessment and discussion.

Course Objectives:

A trainee successfully completing this course and passing the prescribed examination will be enabled to efficiently operate the GMDSS equipment, and to have primary responsibility for radio communications during distress incidents. Given the severe problems being experienced in the GMDSS as a result of the large number of false distress alerts that now occur, training will also be provided in techniques to avoid the unintentional transmission of false alerts and the procedures to use in order to mitigate the effects of false distress alerts following unintentional transmission.

Learning outcomes:

- Ability to efficiently operate the GMDSS equipment.
- Primary responsibility for radio communications during distress incidents.
- Avoid the unintentional transmission of false alerts.

Course includes:

■ Theoretical ❑ Tutorial ■ Laboratory ❑ Workshop ❑ Site Visit

Course Prerequisites:

GMDSS (GOC) certificate

Who should attend:

- **Master of ship.**
- **Deck officers.**
- **Radio officers.**
- **Radio operators.**

Course References:

- **I.M.O. Model course.**
- **Master plane of the shore based facilities for the GMDSS.**
- **GMDSS hand book.**
- **Standard marine communication phrases.**
- **STCW code.**
- **MERSAR manual.**
- **International convention for the SOLAS 1974, as amended.**

No. of Participants/course:

❑5-10 ❑10-15 ❑15-20 ■other**:** 10-20

Qualifications of Participants:

- **Higher education.**
- **Little knowledge of maritime radio communication.**
- **Average English.**
- **Elementary computer skills.**

No. of Lecturer:

❑1 ■2 ❑ 3

No. of Assistance:

❑1 ■2 ❑ 3

Course Facilities

■ White Board ❑ V. Projector ❑Data show ❑ PC ■ Manual ■ Handouts
❑ Books ❑ Handouts ❑Flip charts ■ S/W ❑Other: ----------

Course Evaluation

❑ Written Examination ❑ Written Report(s) ❑ Oral Presentation ■ Attendance
❑ Delegates Participation

Certificate Issue:

❑ Local Premises ■ AASTMT ❑ International

Course Registration

Registration:	■ AAST Admission Registration	❑ Online	❑ Other: ----------
Sponsor:	■ Individual	■ Funded By: different organizations	
Fee's:	■ L.E. 495	■ $. 150	■ Other: $ 300 (for funded**)**
Documents required:	■ Registration form	❑ ID/Passport copy	❑ Photo

Arab Academy for Science, Technology and Maritime Transport

Training Course Information Form

Course Information

Course Name: Global Maritime Distress and Safety System (R.O.C.)

Institute/Centre: College of Engineering and Technology **Department:** Electronics and Communication

Type: ❑ Program ■ Course ❑ Workshop

Course Duration: ❑ 5 days ❑ 3 days ❑ 1 days ■ Other: 10 days

Course Conducted: ■ Local ❑ International

Indicate: ----------

Course Venue: 6 days (electronic dept.) and 4 days (simulator)

Course Language: ❑ English ❑ Arabic ■ Both ❑ Other: ----------

Course Description

Course Outlines:

- Introduction.
- Principles of maritime radio communications.
- GMDSS communication systems.
- Other GMDSS equipment.
- Distress alerting.
- Miscellaneous skills and operation procedures for general communications.
- Assessment and discussion.

Course Objectives:

A trainee successfully completing this course and passing the prescribed examination will be enabled to efficiently operate the GMDSS equipment on board ship sailing in coastal areas, and to have primary responsibility for radio communications during distress incidents. Given the severe problems being experienced in the GMDSS as a result of the large number of false distress alerts that now occur, training will also be provided in techniques to avoid the unintentional transmission of false alerts and the procedures to use in order to mitigate the effects of false distress alerts following unintentional transmission.

Training Course Information form

Learning outcomes:

- **Ability to efficiently operate the GMDSS equipment on board ship sailing in coastal areas.**
- **Primary responsibility for radio communications during distress incidents in coastal areas.**
- **Avoid the unintentional transmission of false alerts.**

Course includes:

■ Theoretical ❑ Tutorial ■ Laboratory ❑ Workshop ❑ Site Visit

Course Prerequisites:

None

Who should attend:

- **Master of ship.**
- **Deck officers.**
- **Radio operators.**

Course References:

- **I.M.O. Model course.**
- **Master plane of the shore based facilities for the GMDSS.**
- **GMDSS hand book.**
- **Standard marine communication phrases.**
- **STCW code.**
- **MERSAR manual.**
- **International convention for the SOLAS 1974, as amended.**

No. of Participants/course:

❑5-10 ■10-15 ❑15-20 ❑other: ----------

Qualifications of Participants:

- **Little knowledge of maritime radio communication.**
- **Average English.**
- **Elementary computer skills.**

No. of Lecturer:

❑1 ❑2 ■ 3

No. of Assistance:

❑1 ■2 ❑ 3

Course Facilities

■ White Board ❑ V. Projector ❑Data show ❑ PC ■ Manual ■ Handouts
❑ Books ❑ Handouts ❑Flip charts ■ S/W ❑Other: ----------

Course Evaluation

■ Written Examination ❑ Written Report(s) ❑ Oral Presentation ■ Attendance
❑ Delegates Participation

Certificate Issue:

❑ Local Premises ■ AASTMT ❑ International

Course Registration

Registration:	■ AAST Admission Registration	❑ Online	❑ Other: ----------
Sponsor:	■ Individual	■ Funded By: different organizations	
Fee's:	■ L.E. 990	■ $. 300	■ Other: $ 600 (for funded)
Documents required:	■ Registration form	❑ ID/Passport copy	❑ Photo

Arab Academy for Science, Technology and Maritime Transport

Training Course Information Form

Course Information

Course Name: **Global Maritime Distress and Safety System (updating)**

Institute/Centre: **College of Engineering and Technology** **Department:** **Electronics and Communication**

Type: ❑ Program ■ Course ❑ Workshop

Course Duration: ■ 5 days ❑ 3 days ❑ 1 days ❑ Other:

Course Conducted: ■ Local ❑ International

Indicate: ----------

Course Venue: **2 days (electronic dept.) And 2 days (simulator) and 1day (examination centre)**

Course Language: ❑ English ❑ Arabic ■ Both ❑ Other: ----------

Course Description

Course Outlines:

- **GMDSS communication systems.**
- **Other GMDSS equipment.**
- **Distress alerting.**
- **Miscellaneous skills and operation procedures for general communications.**
- **Assessment and discussion.**

Course Objectives:

A trainee successfully completing this course and passing the prescribed examination will be enabled to efficiently operate the GMDSS equipment, and to have primary responsibility for radio communications during distress incidents. Given the severe problems being experienced in the GMDSS as a result of the large number of false distress alerts that now occur, training will also be provided in techniques to avoid the unintentional transmission of false alerts and the procedures to use in order to mitigate the effects of false distress alerts following unintentional transmission.

Training Course Information form

Learning outcomes:

- **Ability to efficiently operate the GMDSS equipment.**
- **Primary responsibility for radio communications during distress incidents.**
- **Avoid the unintentional transmission of false alerts.**

Course includes:

■ Theoretical ❑ Tutorial ■ Laboratory ❑ Workshop ❑ Site Visit

Course Prerequisites:

- **GMDSS (GOC) certificate.**
- **GMDSS (GOC) license.**

Who should attend:

- **Master of ship.**
- **Deck officers.**

Course References:

- **I.M.O. Model course**
- **GMDSS hand book.**
- **STCW code.**
- **International convention for the SOLAS 1974, as amended.**
- **Master plane of the shore based facilities for the GMDSS.**
- **Standard marine communication phrases.**
- **MERSAR manual.**

No. of Participants/course:

❑5-10 ❑10-15 ❑15-20 ■other: 10-20

Qualifications of Participants:

- **Higher education.**
- **Average English.**
- **Little knowledge of maritime radio communication.**
- **Elementary computer skills.**

No. of Lecturer:

❑1 ■2 ❑ 3

No. of Assistance:

❑1 ■2 ❑ 3

Course Facilities

■ White Board ❑ V. Projector ■Data show ❑ PC ■ Manual ❑ Handouts
❑ Books ❑ Handouts ❑Flip charts ■ S/W ❑Other: ----------

Course Evaluation

❑ Written Examination ❑ Written Report(s) ❑ Oral Presentation ■ Attendance
❑ Delegates Participation

Certificate Issue:

❑ Local Premises ■ AASTMT ❑ International

Course Registration

Registration:	❑AAST Admission Registration	❑ Online	■ Other: examination centre
Sponsor:	■ Individual	■ Funded By: different organizations	
Fee's:	■ L.E. 550	■ $. 160	■ Other: $ 320 (for funded)
Documents required:	■ Registration form	❑ ID/Passport copy	❑ Photo

Arab Academy for Science, Technology and Maritime Transport

Training Course Information Form

Course Information

Course Name: **Environmental Management Systems Auditor / Lead Auditor**

Institute/Centre: Productivity &Quality Institute **Department:** Training Department

Type: ❑ Program ☑ Course ❑ Workshop

Course Duration: ☑ 5 days ❑ 3 days ❑ 1 days ❑ Other: ----------

Course Conducted: ☑ Local ☑ International Indicate: Saudi Arabia

Course Venue: AASTMT- Miami

Course Language: ☑ English ☑ Arabic ❑ Both ❑ Other: ----------

Course Description

Course Outlines:

- Environmental Management System.
- Implementation and Operation
- Environmental Audit Planning and Preparation
- Audit Reporting and Follow-up
- Conclusion and Reflection

Course Objectives:

- Describe the purpose of an EMS and explain the principles, processes and techniques used for the assessment and management of environmental aspects and impacts, including the significance of these for EMS auditors.
- Explain the purpose, content and interrelationship of ISO 14001, the ISO 14000 series guidance standards, and the legislative framework relevant to an EMS.
- Explain the role of an auditor to plan, conduct, report and follow up an audit in accordance with ISO 19011.

Learning outcomes:

- Undertake the role of an auditor to plan, conduct, report and follow up an audit in accordance with ISO 19011 and by interpreting the requirements of ISO 14001

Course includes: ☑ Theoretical ☑ Tutorial ❑ Laboratory ☑ Workshop ❑ Site Visit

Course Prerequisites:

None

Who should attend:

- Internal auditors
- Environmental managers
- Employees
- Head of department

Training Course Information form

Course References:

1. Stephen Ison, Stephen Peake, Stuart Wall, Environemmental Issues and Policies, First edition, England , Prentice Hall, 2002.
2. McGRAW.Hill, Principle of Environmental Engineering and Science, Third Edition, McGraw-Hill Higher Education, North America, 2004.
3. Available at http://www.iso.org/iso/en/

No. of Participants/course: ❑5-10 ❑10-15 ✔ ❑15-20 ❑Other: ----------

Qualifications of Participants:

- Higher education
- Environmental awareness
- Teamwork skills
- Average English

No. of Lecturer: ☑1 ❑2 ❑3

No. of Assistance: ☑1 ❑2 ❑3

Course Facilities

☑ White Board ☑ V. Projector ☑Data show ❑ PC ☑ Manual ☑ Handouts
❑ Books ☑Flip charts ❑ S/W ❑Other: ----------

Course Evaluation

☑ Written Examination ❑ Written Report(s) ☑ Oral Presentation ☑ Attendance
☑ Delegates Participation

Certificate Issue: ❑ Local Premises ❑ AASTMT ❑✔International

Course Registration

Registration: ☑AAST Admission Registration ❑ Online ❑ Other: ----------

Sponsor: ❑ Individual ❑ Funded By:

Fee's: ☑ L.E. ---2400--- ❑ $ ---------- ❑ Other: ----------

Documents required: ❑ Registration form ❑ ID/Passport copy ❑ Photo

Training Course Information form

Arab Academy for Science, Technology and Maritime Transport

Training Course Information Form

Course Information

Course Name:

Institute/Centre: **Department:**

Type: ❑ Program ❑ Course ❑ Workshop

Course Duration: ❑ 5 days ❑ 3 days ❑ 1 days ❑ Other: ----------

Course Conducted: ❑ Local ❑ International
Indicate: ----------

Course Venue:

Course Language: ❑ English ❑ Arabic ❑ Both ❑ Other: ----------

Course Description

Course Outlines:

Course Objectives:

Learning outcomes:

Course includes: ❑Theoretical ❑ Tutorial ❑ Laboratory ❑ Workshop ❑ Site Visit

Course Prerequisites:

Training Course Information form

Who should attend:

Course References:

No. of Participants/course: ❑5-10 ❑10-15 ❑15-20 ❑Other: ----------

Qualifications of Participants:

No. of Lecturer: ❑1 ❑2 ❑3

No. of Assistance: ❑1 ❑2 ❑3

Course Facilities

❑ White Board ❑ V. Projector ❑Data show ❑ PC ❑ Manual ❑ Handouts
❑ Books ❑ Handouts ❑Flip charts ❑ S/W ❑Other: ----------

Course Evaluation

❑ Written Examination ❑ Written Report(s) ❑ Oral Presentation ❑ Attendance
❑ Delegates Participation

Certificate Issue: ❑ Local Premises ❑ AASTMT ❑ International

Course Registration

Registration: ❑AAST Admission Registration ❑ Online ❑ Other: ----------

Sponsor: ❑ Individual ❑ Funded By:

Fee's: ❑ L.E. ---------- ❑ $ ---------- ❑ Other: ----------

Documents required: ❑ Registration form ❑ ID/Passport copy ❑ Photo

Arab Academy for Science, Technology and Maritime Transport

Training Course Information Form

Course Information

Course Name: **Wireless Communication Networks**

Institute/Centre: College of Engineering & Tech. **Department:** Electronics & Communications

Type: ❑ Program ❑ Course ❑ Workshop

Course Duration: ☑ 5 days ❑ 3 days ❑ 1 days ❑ Other: ----------

Course Conducted: ☑ Local ☑ International

Course Venue: **AASTMT – Abu Kir**

Course Language: ☑ English ❑ Arabic ❑ Both ❑ Other: ----------

Course Description

Course Outlines:

. Fundamentals of wireless Communications
. Physical and MAC Layers design
. 802.11 networks and their simulation
. Hybrid wireless netowrks

Course Objectives:

. Apply networking theory to wireless communication systems.
. Investigate performance of different wireless communication networks
. Design small, medium and large scale wireless networks.

Learning outcomes:

. Understanding the concept of wireless communication networks
. Design and simulation of Different Types of wireless communication networks

Course includes: ☑Theoretical ☑ Tutorial ✓ Laboratory ❑ Workshop ❑ Site Visit

Course Prerequisites:

Basic Communication Networks

Who should attend:

Field Engineers, Graduate students, last year undergraduate students

Course References:

Lecture notes submitted to students in class.

No. of Participants/course: ❑5-10 ☑❑10-15 ❑15-20 ❑Other: ----------

Qualifications of Participants:

- Higher education or Undergraduate

- Teamwork skills
- Good in English

No. of Lecturer: ☑1 ❑2 ❑3

No. of Assistance: ❑1 ❑2 ❑3

Course Facilities

☑ White Board ❑ V. Projector ☑Data show ✓ PC ☑ Manual ☑ Handouts
✓ Books ❑Flip charts ❑✓ S/W ❑Other: ----------

Course Evaluation

❑ Written Examination ☑ Written Report(s) ☑ Oral Presentation ☑ Attendance
☑ Delegates Participation ☑ Project

Certificate Issue: ❑ Local Premises ✓ AASTMT ❑ International

Course Registration

Registration: ■AAST Admission Registration ❑ Online ❑ Other: ----------

Sponsor: ❑ Individual ❑ Funded By: 8000 L.E. Egyptian Company

Fee's: ❑ L.E. 800 For Egyptian ❑ $ 200 For non Egyptian ❑ Other: 2000 $ Non Egyptian Company

Documents required: ❑ Registration form ■ ID/Passport copy ❑ Photo

Training Course Information form

Arab Academy for Science, Technology and Maritime Transport

Training Course Information Form

Course Information

Course Name: GSM System Engineer and air interface

Institute/Centre: College of Engineering & Tech. **Department:** Electronics & Communications

Type: ❑ Program ❑ Course ❑ Workshop

Course Duration: ☑ 5 days ❑ 3 days ❑ 1 days ❑ Other: ----------

Course Conducted: ☑ Local ☑ International

Course Venue: **AASTMT – Abu Kir**

Course Language: ☑ English ❑ Arabic ❑ Both ❑ Other: ----------

Course Description

Course Outlines:

. Describe the functionality of the core components of a GSM network
. State the physical and logical channels utilized by GSM air interface
. Identify the format of the air interface such as TDMA
. Identify typical GSM site configurations

Course Objectives

. Gain practical knowledge on the operation of GSM systems.
. Understand the mechanisms used in the GSM air interface
.

Learning outcomes:

. Understanding the concept of cellular communication networks
. Design and simulation of GSM air interface

Course includes: ☑Theoretical ☑ Tutorial Laboratory ❑ Workshop ❑ Site Visit

Course Prerequisites:

None

Who should attend:

Field Engineers, Graduate students, last year undergraduate students

Course References:

Lecture notes submitted to students in class.

No. of Participants/course: ❑5-10 ☑10-15 ❑15-20 ❑Other: ----------

Qualifications of Participants:

- Higher education
- Teamwork skills

No. of Lecturer: ☑1 ❑2 ❑3

No. of Assistance: ☑1 ❑2 ❑3

Course Facilities

☑ White Board ❑ V. Projector ☑Data show ✓ PC ☑ Manual ☑ Handouts
✓ Books ❑Flip charts ❑✓ S/W ❑Other: ----------

Course Evaluation

❑ Written Examination ☑ Written Report(s) ☑ Oral Presentation ☑ Attendance
☑ Delegates Participation ☑ Project

Certificate Issue: ❑ Local Premises ✓ AASTMT ❑ International

Course Registration

Registration: ■AAST Admission Registration ❑ Online ❑ Other: ----------

Sponsor: ❑ Individual ❑ Funded By: 8000 L.E. Egyptian Company

Fee's: ❑ L.E. 800 For Egyptian ❑ $ 200 For non Egyptian ❑ Other: 2000 $ Non Egyptian Company

Documents required: ❑ Registration form ■ ID/Passport copy ❑ Photo

Training Course Information form

Arab Academy for Science, Technology and Maritime Transport

Training Course Information Form

Course Information

Course Name: Introduction to Electronic Circuits

Institute/Centre: College of Engineering & Tech. **Department:** Electronics and Communications Engg.

Type: ❑ Program ☑ Course ❑ Workshop

Course Duration: ☑ 5 days ❑ 3 days ❑ 1 days ❑ Other: ----------

Course Conducted: ☑ Local ☑ International

Course Venue: **AASTMT – Abu Kir**

Course Language: ☑ English ☑ Arabic ❑ Both ❑ Other: ----------

Course Description

Course Outlines:

. Fundamentals of semiconductor devices.
. Bipolar and MOSFET transistors.
. Operational Amplifiers.
. Analog electronic circuits.
. Digital integrated circuits.
. Electronic circuits for communications.

Course Objectives

. To get a good understanding of semiconductor devices.
. To understand Bipolar and MOSFET transistors and Operational Amplifiers.
. To get a good understanding of Analog electronic circuits.
. To get a good understanding of Digital integrated circuits.
. Introduction to Electronic circuits for communication.

Learning outcomes:

. Understanding of Electronic devices and circuits.
. Understanding of analog and digital Electronic circuits.
. Understanding of Electronic circuits for communication.

Course includes: ❑✔Theoretical ❑✔ Tutorial ❑✔ Laboratory ❑ Workshop ❑ Site Visit

Course Prerequisites:

None

Who should attend:

All those interested in Electronic Circuits.

Training Course Information form

Course References:

1. Adel S. Sedra & Kenneth C. Smith, *Microelectronic Circuits*, 5th Edition, 2004.

No. of Participants/course: ❑5-10 ❑10-15 ☑15-20 ❑Other: ----------

Qualifications of Participants:

- Higher education
- Teamwork skills
- Average English

No. of Lecturer: ☑1 ❑2 ❑3

No. of Assistance: ❑1 ☑2 ❑3

Course Facilities

☑ White Board ☑ V. Projector ☑Data show ✓ PC ☑ Manual ☑ Handouts
✓ Books ❑Flip charts ❑ S/W ❑Other: ----------

Course Evaluation

☑ Written Examination ❑ Written Report(s) ☑ Oral Presentation ☑ Attendance
☑ Delegates Participation

Certificate Issue: ❑ Local Premises ✓ AASTMT ❑ International

Course Registration

Registration: ■AAST Admission Registration ❑ Online ❑ Other: ----------

Sponsor: ❑ Individual ❑ Funded By: 10000 L.E. Egyptian Company

Fee's: ❑ L.E. 800 For Egyptian ❑ $ 200 For non Egyptian ❑ Other: 3000 $ Non Egyptian Company

Documents required: ❑ Registration form ■ ID/Passport copy ❑ Photo

Training Course Information form

Arab Academy for Science, Technology and Maritime Transport

Training Course Information Form

Course Information

Course Name: **Introduction to Photovoltaic Cells and Systems.**

Institute/Centre: College of Engineering & Tech. **Department:** Electronics and Communications Engg.

Type: ❑ Program ☑ Course ❑ Workshop

Course Duration: ☑ 5 days ❑ 3 days ❑ 1 days ❑ Other: ----------

Course Conducted: ☑ Local ☑ International

Course Venue: **AASTMT – Abu Kir**

Course Language: ☑ English ☑ Arabic ❑ Both ❑ Other: ----------

Course Description

Course Outlines:

. Fundamentals of Semiconductor materials.
. Introduction to solar radiation and solar cells.
. Silicon solar cells.
. GaAs concentrator solar cells.
. Thin-Film solar cells.
. Photovoltaic modules and systems.
. Applications.

Course Objectives

. To get a good understanding of Semiconductor materials.
. To understand solar radiation and solar cells.
. To get a good understanding of Silicon, GaAs, and Thin-Film solar cells.
.To get a good understanding of Photovoltaic modules and systems.
. To understand some of the applications of Photovoltaics.

Learning outcomes:

. Understanding of semiconductor materials and solar cell principles.
. To get a good understanding of solar cells, modules and systems.

Course includes: ☑Theoretical ☑ Tutorial ☑ Laboratory ❑ Workshop ❑ Site Visit

Course Prerequisites:

None

Who should attend:

All those interested in Photovoltaic Cells and Systems.

Training Course Information form

Course References:

1. C. Hu, *Solar cells and applications*, McGraw-Hill, 1997.

No. of Participants/course: ❑5-10 ❑10-15 ☑15-20 ❑Other: ----------

Qualifications of Participants:

- Higher education

- Teamwork skills
- Average English

No. of Lecturer: ☑1 ❑2 ❑3

No. of Assistance: ☑1 ❑2 ❑3

Course Facilities

☑ White Board ☑ V. Projector ☑Data show ✓ PC ☑ Manual ☑ Handouts
✓ Books ❑Flip charts ☑ S/W ❑Other: ----------

Course Evaluation

☑ Written Examination ❑ Written Report(s) ☑ Oral Presentation ☑ Attendance
☑ Delegates Participation

Certificate Issue: ❑ Local Premises ☑ AASTMT ❑ International

Course Registration

Registration: ■AAST Admission Registration ❑ Online ❑ Other: ----------

Sponsor: ❑ Individual ❑ Funded By: 10000 L.E. Egyptian Company

Fee's: ❑ L.E. 800 For Egyptian ❑ $ 200 For non Egyptian ❑ Other: 3000 $ Non Egyptian Company

Documents required: ❑ Registration form ■ ID/Passport copy ❑ Photo

Training Course Information form

Arab Academy for Science, Technology and Maritime Transport

Training Course Information Form

Course Information

Course Name: Wireless Communication Networks

Institute/Centre: College of Engineering & Tech. **Department:** Electronics & Communications

Type: ❑ Program ❑ Course ❑ Workshop

Course Duration: ☑ 5 days ❑ 3 days ❑ 1 days ❑ Other: ----------

Course Conducted: ☑ Local ☑ International

Course Venue: **AASTMT – Abu Kir**

Course Language: ☑ English ❑ Arabic ❑ Both ❑ Other: ----------

Course Description

Course Outlines:

. Fundamentals of wireless Communications
. Physical and MAC Layers design
. 802.11 networks and their simulation
. Hybrid wireless netowrks

Course Objectives

. Apply networking theory to wireless communication systems.
. Investigate performance of different wireless communication networks
. Design small, medium and large scale wireless networks.

Learning outcomes:

. Understanding the concept of wireless communication networks
. Design and simulation of Different Types of wireless communication networks

Course includes: ☑Theoretical ☑ Tutorial ✓ Laboratory ❑ Workshop ❑ Site Visit

Course Prerequisites:

Basic Communication Networks

Who should attend:

Field Engineers, Graduate students, last year undergraduate students

Training Course Information form

Course References:

Lecture notes submitted to students in class.

No. of Participants/course: ❑5-10 ☑10-15 ❑15-20 ❑Other: ----------

Qualifications of Participants:

- Higher education or Undergraduate

- Teamwork skills
- Good in English

No. of Lecturer: ☑1 ❑2 ❑3

No. of Assistance: ☑1 ❑2 ❑3

Course Facilities

☑ White Board ❑ V. Projector ☑Data show ✓ PC ☑ Manual ☑ Handouts
✓ Books ❑Flip charts ❑✓ S/W ❑Other: ----------

Course Evaluation

❑ Written Examination ☑ Written Report(s) ☑ Oral Presentation ☑ Attendance
☑ Delegates Participation ☑ Project

Certificate Issue: ❑ Local Premises ☑ AASTMT ❑ International

Course Registration

Registration: ■AAST Admission Registration ❑ Online ❑ Other: ----------

Sponsor: ❑ Individual ❑ Funded By: 8000 L.E. Egyptian Company

Fee's: ❑ L.E. 800 For Egyptian ❑ $ 200 For non Egyptian ❑ Other: 2000 $ Non Egyptian Company

Documents required: ❑ Registration form ■ ID/Passport copy ❑ Photo

Training Course Information form

Arab Academy for Science, Technology and Maritime Transport

Training Course Information Form

Course Information

Course Name: Digital Image Processing Using Matlab®

Institute/Centre: College of Engineering & Tech. **Department:** Electronics & Communications

Type: ❑ Program ❑ Course ❑ Workshop

Course Duration: ☑ 5 days ❑ 3 days ❑ 1 days ❑ Other: ----------

Course Conducted: ☑ Local ☑ International

Course Venue: **AASTMT – Abu Kir**

Course Language: ☑ English ❑ Arabic ❑ Both ❑ Other: ----------

Course Description

Course Outlines:

. Introduction to Matlab
- Fundamentals of digital image processing
. Spatial-domain processing
- Frequency-domain processing
- Color Image processing
- Image compression

Course Objectives

The objective of this course is to study the fundamentals of digital image processing including; image enhancement, filtering, segmentation, and compression. The attendees will also learn how to design and implement their own imaging solutions using Matlab® to solve practical problems in image processing.

Learning outcomes:

. Understanding the concept of Digital image processing
. Design and simulation of Different Types of image enhancement and compression

Course includes: ❑ Theoretical ❑ Tutorial ✓ Laboratory ❑ Workshop ❑ Site Visit

Course Prerequisites:

EC321/EC320 Signals and systems (Communications Theory) course or equivalent

Who should attend:

Field Engineers, Graduate students, last year undergraduate students

Training Course Information form

Course References:

Lecture notes submitted to students in class.

No. of Participants/course: ❑5-10 ☑10-15 ❑15-20 ❑Other: ----------

Qualifications of Participants:

- Higher education or Undergraduate

- Teamwork skills
- Good in English

No. of Lecturer: ❑1 ❑2 ❑3

No. of Assistance: ☑1 ❑2 ❑3

Course Facilities

☑ White Board ❑ V. Projector ☑Data show ✓ PC ☑ Manual ☑ Handouts
✓ Books ❑Flip charts ❑✓ S/W ❑Other: ----------

Course Evaluation

❑ Written Examination ☑ Written Report(s) ☑ Oral Presentation ☑ Attendance
☑ Delegates Participation ☑ Project

Certificate Issue: ❑ Local Premises ☑ AASTMT ❑ International

Course Registration

Registration: ■AAST Admission Registration ❑ Online ❑ Other: ----------

Sponsor: ❑ Individual ❑ Funded By: 8000 L.E. Egyptian Company

Fee's: ❑ L.E. 800 For Egyptian ❑ $ 200 For non Egyptian ❑ Other: 2000 $ Non Egyptian Company

Documents required: ❑ Registration form ■ ID/Passport copy ❑ Photo

Training Course Information form

Arab Academy for Science, Technology and Maritime Transport

Training Course Information Form

Course Information

Course Name: Electronic Circuits Analysis by Computer (PSPICE).

Institute/Centre: College of Engineering & Tech. **Department:** Electronics and Communications Engg.

Type: ❑ Program ❑ Course ☑ Workshop

Course Duration: ❑ 5 days ☑ 3 days ❑ 1 days ❑ Other: ----------

Course Conducted: ☑ Local ☑ International

Course Venue: **AASTMT – Abu Kir**

Course Language: ☑ English ☑ Arabic ❑ Both ❑ Other: ----------

Course Description

Course Outlines:

. Fundamentals of DC and AC circuits.
. Introduction to PSPICE circuit analysis program.
. DC analysis of electronic circuits.
. AC analysis of electronic circuits and frequency response.
. Transient analysis of electronic circuits.
. Parametric analysis of electronic circuits.
. Active semiconductor devices and integrated circuits.

Course Objectives

. To get a good understanding of DC and AC circuits.
. To understand and use PSPICE circuit analysis program.
. To get a good understanding of DC analysis and AC analysis of electronic circuits.
. To get a good understanding of Transient and Parametric analysis of electronic circuits.
. Introduction to Active semiconductor devices and integrated circuits in simulation.

Learning outcomes:

. Understanding of DC and AC circuits.
. To get a good command of PSPICE circuit analysis program.

Course includes: ☑Theoretical ☑ Tutorial ❑ Laboratory ☑ Workshop ❑ Site Visit

Course Prerequisites:

None

Who should attend:

All those interested in Electronic Circuit Analysis by Computers (PSPICE).

Training Course Information form

Course References:

1. Goody, *OrCAD PSPICE for Windows*, vol. 1 and vol. 2, 3th Edition, Prentice-Hall, 2001.

No. of Participants/course: ❑5-10 ❑10-15 ☑15-20 ❑Other: ----------

Qualifications of Participants:

- Higher education
- Teamwork skills
- Average English

No. of Lecturer: ☑1 ❑2 ❑3

No. of Assistance: ❑1 ❑2 ❑3

Course Facilities

☑ White Board ☑ V. Projector ☑Data show ☑ PC ☑ Manual ☑ Handouts
✓ Books ❑Flip charts ☑ S/W ❑Other: ----------

Course Evaluation

☑ Written Examination ❑ Written Report(s) ☑ Oral Presentation ☑ Attendance
☑ Delegates Participation

Certificate Issue: ❑ Local Premises ☑ AASTMT ❑ International

Course Registration

Registration: ■AAST Admission Registration ❑ Online ❑ Other: ----------

Sponsor: ❑ Individual ❑ Funded By: 10000 L.E. Egyptian Company

Fee's: ❑ L.E. 800 For Egyptian ❑ $ 200 For non Egyptian ❑ Other: 3000 $ Non Egyptian Company

Documents required: ❑ Registration form ■ ID/Passport copy ❑ Photo

Training Course Information form

Arab Academy for Science, Technology and Maritime Transport

Training Course Information Form

Course Information

Course Name: Integrated circuit Fabrication Technology

Institute/Centre: College of Engineering & Tech. **Department:** Electronics and Communications Engg.

Type: ❑ Program ☑ Course ❑ Workshop

Course Duration: ☑ 5 days ❑ 3 days ❑ 1 days ❑ Other: ----------

Course Conducted: ☑ Local ☑ International

Course Venue: AASTMT – Abu Kir

Course Language: ☑ English ☑ Arabic ❑ Both ❑ Other: ----------

Course Description

Course Outlines:

. Fundamentals and types of Integrated circuits, and introduction to semiconductors.
. Preparation of metallurgical-grade and semiconductor-grade silicon.
. Crystal growth and wafer preparation technology.
. Photolithography and etching techniques.
. Oxidation techniques.
. Solid-State Diffusion and Ion-Implantation.
. Introduction to Vacuum technology and metallization.
. Chemical vapor deposition and sputtering.
. Process integration (bipolar and CMOS).

Course Objectives

. To get a good understanding of semiconductor materials.
. To introduce crystal growth technology in electronics industries.
. To understand basic IC fabrication steps.
. To integrate fabrication processes in the production of integrated circuits.
. To Introduce different types of integrated circuits.

Learning outcomes:

. Understanding of semiconductor materials and preparation in electronics inductries.
. Understanding of Integrated circuits fabrication technology.

Course includes: ☑ Theoretical ☑ Tutorial ❑ Laboratory ❑ Workshop ❑ Site Visit

Course Prerequisites:

None

Who should attend:

All those interested in Integrated circuit Fabrication

This form should be completed by the accountable who conduct courses inside or outside A.R.E

Course References:

1. Richard C. Jeager, "Introduction to Microelectronic Fabrication," second edition, Prentice Hall, 2002.

No. of Participants/course: ❑5-10 ❑10-15 ☑15-20 ❑Other: ----------

Qualifications of Participants:

- Higher education

- Teamwork skills
- Average English

No. of Lecturer: ☑1 ❑2 ❑3

No. of Assistance: ☑1 ❑2 ❑3

Course Facilities

☑ White Board ☑ V. Projector ☑Data show ☑ PC ☑ Manual ☑ Handouts
✓ Books ❑Flip charts ❑ S/W ❑Other: ----------

Course Evaluation

☑ Written Examination ❑ Written Report(s) ☑ Oral Presentation ☑ Attendance
☑ Delegates Participation

Certificate Issue: ❑ Local Premises ☑ AASTMT ❑ International

Course Registration

Registration: ■AAST Admission Registration ❑ Online ❑ Other: ----------

Sponsor: ❑ Individual ❑ Funded By: 10000 L.E. Egyptian Company

Fee's: ❑ L.E. 800 For Egyptian ❑ $ 200 For non Egyptian ❑ Other: 3000 $ Non Egyptian Company

Documents required: ❑ Registration form ■ ID/Passport copy ❑ Photo

Training Course Information form

Arab Academy for Science, Technology and Maritime Transport

Training Course Information Form

Course Information

Course Name: **Optical Fiber Communications**

Institute/Centre: College of Engineering & Technology **Department:** **Electronics & Communications**

Type: ❑ Program ✓ Course ✓ Workshop

Course Duration: ✓ 5 days ❑ 3 days ❑ 1 days ❑ Other: ----------

Course Conducted: ✓ Local ✓ International
Indicate: -Syria, Kuwait----------

Course Venue: **AASTMT - AbuKir**

Course Language: ❑ English ❑ Arabic ✓ Both ❑ Other: ----------

Course Description

Course Outlines:

- Definition of Optical Fibers.
- Attenuation and Losses in Optical Fibers.
- Fault Detectors.
- Optical Couplers.
- Optical Sources, Amplifiers and Detectors.
- All Optical Communication System.

Course Objectives:

1) Enhance Knowledge about Optical Fibers.
2) Presentation of New Technologies of Optical Fiber Communications.
3) Presentation of Fault Detector, Location and Repair in Optical Fiber Communications Systems.

Learning outcomes:

- Learning Optical Communication System Components.

Course includes: ✓Theoretical ❑ Tutorial ✓ Laboratory ✓ Workshop ❑ Site Visit

Course Prerequisites:

- Knowledge of Communications Principles.

Who should attend:

- Electrical Engineers (Electronics and Communications Division).

Course References:

- Text in Optical Fiber Communications and Lab Manual.

No. of Participants/course: ❑5-10 ✓10-15 ❑15-20 ❑Other: ----------

Qualifications of Participants:

- Communications Engineers.

No. of Lecturer: ✓1 ❑2 ❑3

No. of Assistance: ✓1 ❑2 ❑3

Course Facilities

✓ White Board ❑ V. Projector ✓Data show ✓ PC ✓ Manual ❑ Handouts
❑ Books ❑ Handouts ❑Flip charts ❑ S/W ❑Other: ----------

Course Evaluation

❑ Written Examination ❑ Written Report(s) ✓ Oral Presentation ✓ Attendance
❑ Delegates Participation

Certificate Issue: ❑ Local Premises ✓ AASTMT ❑ International

Course Registration

Registration: ■AAST Admission Registration ❑ Online ❑ Other: ----------

Sponsor: ❑ Individual ❑ Funded By: 8000 L.E. Egyptian Company

Fee's: ❑ L.E. 800 For Egyptian ❑ $ 200 For non Egyptian ❑ Other: 2000 $ Non Egyptian Company

Documents required: ❑ Registration form ■ ID/Passport copy ❑ Photo

Arab Academy for Science, Technology and Maritime Transport

Training Course Information Form

Course Information

Course Name: **UMTS System Engineer and air interface**

Institute/Centre: College of Engineering & Tech. **Department:** Electronics & Communications

Type: ❑ Program ❑ Course ❑ Workshop

Course Duration: ☑ 5 days ❑ 3 days ❑ 1 days ❑ Other: ----------

Course Conducted: ☑ Local ☑ International

Course Venue: **AASTMT – Abu Kir**

Course Language: ☑ English ❑ Arabic ❑ Both ❑ Other: ----------

Course Description

Course Outlines:

. Describe the functionality of the core components of a UMTS network
. State the physical and logical channels utilized by UMTS air interface
. Identify the format of the air interface such as CDMA
. Identify typical UMTS site configurations

Course Objectives

. Gain practical knowledge on the operation of UMTS systems.
. Understand the mechanisms used in the UMTS air interface
.

Learning outcomes:

. Understanding the concept of cellular communication networks
. Design and simulation of UMTS air interface

Course includes: ☑Theoretical ☑ Tutorial Laboratory ❑ Workshop ❑ Site Visit

Course Prerequisites:

None

Who should attend:

Field Engineers, Graduate students, last year undergraduate students

Course References:

Lecture notes submitted to students in class.

Training Course Information form

No. of Participants/course: ❑5-10 ❑10-15 ❑15-20 ❑Other: ----------

Qualifications of Participants:

- Higher education or Undergraduate

- Teamwork skills
- Good in English

No. of Lecturer: ❑1 ❑2 ❑3

No. of Assistance: ☑1 ❑2 ❑3

Course Facilities

☑ White Board ❑ V. Projector ☑Data show ✓ PC ☑ Manual ☑ Handouts
✓ Books ❑Flip charts ❑✓ S/W ❑Other: ----------

Course Evaluation

❑ Written Examination ☑ Written Report(s) ☑ Oral Presentation ☑ Attendance
☑ Delegates Participation ☑ Project

Certificate Issue: ❑ Local Premises ✓ AASTMT ❑ International

Course Registration

Registration: ■AAST Admission Registration ❑ Online ❑ Other: ----------

Sponsor: ❑ Individual ❑ Funded By: 8000 L.E. Egyptian Company

Fee's: ❑ L.E. 800 For Egyptian ❑ $ 200 For non Egyptian ❑ Other: 2000 $ Non Egyptian Company

Documents required: ❑ Registration form ■ ID/Passport copy ❑ Photo

Training Course Information form

Arab Academy for Science, Technology and Maritime Transport

Training Course Information Form

Course Information

Course Name: **Antenna Engineering and its Applications**

Institute/Centre: College of Engineering & Tech. **Department:** Electronics &Communications

Type: ❑ Program ❑ Course ❑ Workshop

Course Duration: ☑ 5 days ❑ 3 days ❑ 1 days ❑ Other: ----------

Course Conducted: ☑ Local ☑ International

Course Venue: **AASTMT – Abu Kir**

Course Language: ☑ English ☑ Arabic ❑ Both ❑ Other: ----------

Course Description

Course Outlines:

. Fundamental Principles of Electromagnetic Waves
. Propagation of Electromagnetic plane waves
. Fundamental Parameters of Antenna
. Wire Antennas
. Wideband Antennas
. Higher Gain Antennas
. Microstrip Antennas
. Array Antennas

Course Objectives

. To apply wave theory to uniform plane waves in different media.
. To investigates its performance when incident on a boundary between two mediums.
. To Introduce the various antenna types.
. To Briefly discuss some forms of the various antenna types.
. To Introduce the radiation characteristic requirements for many applications.
. To Discuss the performance of some antenna types experimentally.

Learning outcomes:

. Understanding of Electromagnetic Wave Propagation
. Design, implementation, Measurement, and Simulation of Different Types of Antennas

Course includes: ☑Theoretical ❑ Tutorial ✓ Laboratory ❑ Workshop ❑ Site Visit

Course Prerequisites:

None

Who should attend:

All those are interesting In antennas and propagation of electromagnetic waves

Course References:

4. Balanis, Antenna theory analysis and design, 2005 by John Wiely &Sons, Inc.

No. of Participants/course: ❑5-10 ❑10-15 ☑15-20 ❑Other: ----------

Qualifications of Participants:

- Higher education
- Teamwork skills

No. of Lecturer: ☑1 ❑2 ❑3

No. of Assistance: ☑1 ❑2 ❑3

Course Facilities

☑ White Board ☑ V. Projector ☑Data show ✓ PC ☑ Manual ☑ Handouts
✓ Books ❑Flip charts ❑✓ S/W ❑Other: ----------

Course Evaluation

☑ Written Examination ❑ Written Report(s) ☑ Oral Presentation ☑ Attendance
☑ Delegates Participation

Certificate Issue: ❑ Local Premises ✓ AASTMT ❑ International

Course Registration

Registration: ■AAST Admission Registration ❑ Online ❑ Other: ----------

Sponsor: ❑ Individual ❑ Funded By: 10000 L.E. Egyptian Company

Fee's: ❑ L.E. 800 For Egyptian ❑ $ 200 For non Egyptian ❑ Other: 3000 $ Non Egyptian Company

Documents required: ❑ Registration form ■ ID/Passport copy ❑ Photo

Training Course Information form