

## IAMU 3<sup>rd</sup> GENERAL ASSEMBLY PAPER APPLICATION & ADDRESSING

### The Ethical and Professional Obligations of Academic Staff Towards Technological Development of Students

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#### *ABSTRACT*

This paper focuses on an important aspect of education and training, namely orienting both education and training towards the promotion of ethical standards in the educational process that it might result in improving the quality of the seafarers towards the next century.

The common obligations of the academic staff comprises the general regulations which regulates the work in the universities and academies. While the articles of these regulations are known to the academic staff, who work in the educational and training fields, some of whom may not be fully conversant with all the academic ethical and professional obligations.

These obligations are not only limited to the process of education and training, whether at the level of basic studies, and upgrading studies or even postgraduates, but should also be the focus of attention in the daily activities in all academic institutions. Moreover the promotion of the said obligations to cope with the fast technological developments which greatly affect the graduates of maritime industry and academies who will have to cope with modern technologies on board modern ships, and their impact on social and psychological affairs.

The relation between academic education, scientific research and technological development is an interactive relation. It is the solid foundation of maritime education that creates future researchers and seafarers.

The introduction of sophisticated computer and advanced equipment will definitely play an important role not only in communication but also in academic research and the development of social life at sea.

The academies and universities contribute to the development of human resources, badly needed in the shipping industry by virtue of the fast technological development, which typify the shipping industry. The Arab Academy for Science and Technology and Maritime Transport recognized the importance of these aspects and has taken major steps towards these important fields.

The paper focuses on the educational and training techniques and activities, which help achieve the said objective.

**N.B:** The views represented in this paper reflect the author all views and not necessarily the Academy s view.

#### **Part I**

*By Capt. El Ashmawy*

### **1. Introduction**

Education is the normal entrance to the developed world, and the basis which the principal infrastructure of human bases on.

The university, or any academy, is the place for consultation which leads the society to change, progress and development. This is simply the role one expects from such academic institutions, i.e., coping with the developments taking place in society and aiming at progress. Therefore, the preparation of the Faculty

Member requires inculcation of the values and ethical standards he is expected to inculcate in his students. Education of all types and at all levels aims at enabling the learner, who is the would be graduate, to deal with the realities of life in such a way that makes of him a good citizen who can effectively contribute to the development of his community. In other words, a basic function of educational institutions is to inculcate in the learner the ethical standards required for leading a good and useful life.

## **2. The Process of Achieving the Ethical Standard**

- 2.1 Developing the learner's personality that he may be able to adapt to the new society he is going to live in, and shoulder whatever responsibility may be entrusted to him as a good citizen. This can only be achieved through interacting with all the available resources in an exemplary manner. Her should be prepared to accept the variables and constants of the society he is going to live in.
- 2.2 Giving great care to the social, cultural and educational activities of the student. Only in such a way can students make good use of their leisure and get over the boredom of a life full of work and no play. Moreover, learning how to benefit from time is a condition of success in life.
- 2.3 Preparing a new generation of leaders through identifying those who have leadership traits, which can only be done through monitoring students while interacting in seminars and the other miscellaneous academic activities. Caring for such would-be leaders is essential. Within this context, it is also essential to identify those who lack such traits, identify the causes of such deficiency, and help them acquire the proper attitude.
- 2.4 Faculty members are expected to improve their professional performance up to the highest possible standards that they may be able to inculcate the proper attitudes in their students. This can be achieved through citing examples of commitment to the students and making them aware of the value of what they learn. Furthermore, the staff members are required to use modern educational techniques and update the textbooks used in the educational process. Only in this way can the staff member repay his society and academic institution.
- 2.5 Participation of Faculty members in planning, preparing and implementing the methods and techniques of training graduates, in addition to their commitment to the realization of the principle of continuation of learning through seminars and workshops at all levels.
- 2.6 The Faculty member has a commitment towards the varied cadres in the universities or the Academy. This applies to newly appointed lecturers as well as old hands. Faculty members could actively help in procuring academic scholarships and missions and holding international workshops and seminars to enhance exchange of experience which is essential to effective learning.
- 2.7 The Faculty member should be dedicated to enhance academic research, especially research which is related to the problems of his community. He has an obligation towards finding effective solutions to these problems. He is expected to find genuine solutions.
- 2.8 Self-assessment is crucial to Faculty members. All Faculty members are expected to undergo this experience that they may evaluate their own methods and techniques of teaching.
- 2.9 The Faculty member has an obligation towards activating and enhancing group work. This can be achieved by engaging in joint researches and projects. This obligations comprises two parts: The first is related to his daily educational activities; the second part is related to whatever is of concern to any member of his work team.
- 2.10 The Faculty member is expected to actively participate in whatever is of importance to academies and universities, e.g., systems, bylaws, etc.

## **3. Professional Obligations Towards Technological Development**

With respect to the professional obligations of Faculty members towards technological development, it is advisable that the targeted objectives should be determined through education with its varied sectors, especially in this era of globalization and interactive strategies.

Faculty members are called upon to exert all possible efforts to base education and training on the findings of academic researches and to monitor all educational and training processes. They are expected to be aware of the importance of basic sciences, without which no success can be achieved in applied sciences.

This is of special importance to postgraduate students who are expected to be fully aware of the laws of basic sciences.

It is of special importance that distinguished students should be identified early in the educational process that they may be given ample opportunities to develop their skills and attitudes through involving them in exchange-of-ideas experiences.

Education in universities and academies should cope with the continuously changing social and academic environment, as well as changes in instructional techniques, which requires continuous modification and updating of educational syllabuses and teaching techniques in a manner that befits both technological development and the varied aptitudes of students at all educational levels.

Academic education and training should qualify the students to use information technology and all the related skills. Implementing graduation projects is an invaluable chance for the students to make the fullest possible use of information technology.

#### **4. Student Personality Development**

Meeting the challenges of the third millennium is a major commitment of all Academies. The preparation of a new generation is not an easy task, especially in an age of fast technological and informational development.

The student is the focus of the educational process. Helping the student build an integrated personality is a major aim, together with enabling him to improve his observation and deduction abilities.

The student is an integral part of the educational process. He should be trained to be interactive, responsive and fully aware of his role.

The educational system prepares students to cope with the realities of the world, treat others humanely, welcome difference in opinion, and appreciate other cultures through active interaction with others.

Within this context, it is relevant to cite the words of the English author, William Butler: Education is not filling a bucket but lighting a candle. The educational system should strive to prepare such a new generation in fulfillment of its sacred mission, i.e., serving as a focal point for all specializations and schools of thought.

#### **5. Arab Academy for Science and Technology and Maritime Transport**

The Arab Academy for Science, Technology and Maritime Transport strives hard to develop an advanced educational system based on full utilization of all potentialities to cope with the requirements of the present era. A basic objective of the Academy is to achieve such a goal by employing highly experienced Faculty members and to employ them into internal auditing in appropriate intervals seeking excellency in performance.

The second part of this paper will throw some lights on these attempts.

As for enhancing the educational and research processes, the Academy aims at providing a more qualified academic staff and developing laboratories and facilities to preserve the privilege it enjoys. In addition the Academy is in the process of establishing a modern library equipped with the latest technology that reflects future horizons. The Academy's main objective is to provide a distinguished educational service for its community.

For a long time the standard by which the efficiency of the educational process was judged is the ratio of lecturers to students. However, another factor is now present, which is the ratio of computers to students.

The University has a sacred mission, i.e., serving as a focal point for all specializations and schools of thought.

The aptitudes and attitudes of students should be fully explored with a view to preparing a new generation that could cope with the requirements of the present era.

Is it possible to apply the foregoing educational and training principles under the current status of maritime universities and academies? In the spirit of the International Association of Maritime Universities

IAMU, I propose the following:

1. Assessing the current status of maritime universities and academies through re-administering a carefully planned questionnaire that guarantees a high response rate.
2. The Association is to request universities and academies members of the Federation to submit a report

describing their actual educational and training processes, academic research methods, and the technique followed in upgrading and postgraduate studies.

3. Circulating the findings by a committee the members of which are to be selected from the Federation universities and academies. The bases of the work of the said committee are to be laid down.
4. The maritime academies and universities are to be classified into levels recognized by IAMU on the basis of the work of the committee with respect to the degrees awarded.
5. A council comprising a review team is to be established; the team is to review the fields of maritime education and training to check the integration of education and training and submit proposals.

## **6. Summary and Conclusion**

The promotion of ethical standards process might result in improving the quality of the seafarers. The ethical obligations are not only limited to the process of education and training, but should also be the focus of attention in the daily activities.

The preparation of the Faculty member requires inculcation of the values and ethical standards he is expected to inculcate in his students.

The basic function of educational institutions is to inculcate in the learner the ethical standards required for leading a good and useful life.

Faculty members are called upon to exert all possible efforts to base education and training on the findings of academic researches and to monitor all educational and training processes.

Education in academies should cope with the continuously changing social and academic environment, it should qualify the students to use information technology and all the related skills.

The educational system prepares the students to cope with the realities of the world through active interaction with others.

In the spirit of the IAMU it is possible to apply the foregoing educational and training principles under the current status of maritime universities and academies.

## **List of References**

- 1- Becker, H. J. (1994). Analysis and trends of school use of new information technologies. Washington, US: Office of Technology Assessment, US Congress.
- 2- Beech, Graham (1978). Computer Assisted Learning in Scientific Education. Oxford: Pergamon Press.
- 3- Bloom, Benjamin S.(1956). Taxonomy of Educational Objectives; the Classification of Goals, Handbook I: Cognitive Domain. New York: David McKay Company.
- 4- Brownell, Cregg (1987). Computers and Teaching. New York: West Publishing Company.
- 5- Carroll, J. B. (1963). 'A model of school learning'.
- 6- Collins, A. (1989). Cognitive apprenticeship and instructional technology (Technical Report No. 474). BBN Laboratories, Cambridge, MA. Centre for the Study of Reading, University of Illinois. July, 1989.
- 7- Crook, C. (1990). 'Computers in the classroom'. In O. Boyd-Barrett & E. Scanlon (eds.), Computers and learning (pp. 155-173). Wokingham, England: Addison-Wesley.
- 8- DuBoulay (1987). 'Computers and the Teacher Education'. In Scanlon, Elleen et. al.(eds.)(1987). Educational Computing. U.K.: John Wiley & Sons.
- 9- Hagg, Stephen et. al. (1998). Management Information System for the Information Age. Boston: Irwin McGraw-Hill.
- 10- Hawkrige H.(1987). 'Computers and Learning'. In Scanlon, Elleen et. al.(eds.) (1987). Educational Computing. U.K.: John Wiley & Sons.
- 11- NCET (1994). Information technology works: Stimulate to educate. Coventry, UK: National Council for Educational Technology.

**Part II**  
*By Dr. Galil*

## **1. Introduction**

The Arab Academy for Science and technology and Maritime Transport (formerly Arab Maritime Academy) was established in ALAEXANDRIA, EGYPT in 1972, to provide modern maritime education and training for all Arab states. No wonder as maritime transport started in Egypt 6500 years ago at the time of King Senphro.

In modern history, at the beginning of the 18<sup>th</sup> century, the Egyptian fleet was the 4<sup>th</sup> power in the Mediterranean Sea<sup>1</sup>.

In 1979 the Academy extended its services to the African countries as well. By 1992 the Academy provided education and maritime training opportunities to candidates from 52 countries world wide.

Establishment of high ethical standard among faculty members and rising the moral condition of students have always been a part of the prime targets of Academy's management. These targets were not easy when the Academy occupies one single-story building. Nowadays where the Academy operates from nine campuses, one of them 52 acres, it would be very difficult to keep high morality and ethical behaviour without the principle of total quality management. This paper describes two major research projects contributed to the development of the Arab Academy.

## **2. The First Major Research Project**

Up to 1989, the organization structure of the Arab Academy was to have the same departmental approach of onboard ships. The academic departments of the Academy were:

- 1- Nautical Studies Department
- 2- Engineering Studies Department
- 3- Academic Studies Department
- 4- Maritime Transport Department

These departments were in addition to:

- One- Port Training Center
- Two- Seamen Training Center
- Three- Catering Training Center
- Four- Maritime Research and Consultation Center.

But by the end of the seventieth a new era of ship building technology emerged. In the early 80 s the world merchant fleet had rapid revolutionary changes in technology. Also, the extremely competitive nature of maritime industry have lead to development of many innovation and complex ship designs<sup>2</sup>. These ships demands an extremely high level of operational procedures and skilled man-power. It was clear from the beginning that technological changes and innovation in ship building coupled with shrinking number of crew members are continuously increasing. This will necessitate installation of more informatic and electronic systems. It was also clear that the trend in ship building may lead to fully automated or even intelligent ships.

The Arab Academy looking into the special demands posed by modern ships and decided that a totally new approach to efficient education and accredited systems are badly needed. It was recognized that the departmental approach of the Academy at that time cannot keep pace with new requirements of highly skilled and intelligent manpower who can safely operate fully automated ships and capable of fulfilling recognizable and satisfactory tasks.

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<sup>1</sup> Maher. S. The Maritime in Islamic Egypt and its Effect. Egypt Ministry of Education.

<sup>2</sup> Abdel-Galil Maritime Education for Intelligent Ship ERA, Journal of Arab Academy, Vol. 20 No. 40, July 1995, PP 10-19.

In 1986 a research project and a research team were established. In addition, the faculty members were requested to gather information on education and development systems world wide, during their normal scientific activities abroad<sup>3</sup>.

As a result, a lot of information was available to the research team. Systems of education and maritime training in Australia, Canada, China, Germany, Holland, Japan, Korea, Singapore, Sweden, Yugoslavia, UK, USA and USSR were available. These information were analysed in 5 groups of knowledge as: (a) critical subjects, (b) pre-requisite, (c) enhancing, (d) Precautionary and (e) academic. Figure (1) shows an example of comparison between the systems of Japan, USA, China, kings points and the Arab Academy<sup>4</sup>.

By 1989, a comprehensive report on the aforesaid project was distributed. Two seminars and 7 general meetings were attended by most of the faculty members and some distinguished professors from Egyptian Universities. The following issues were deeply discussed:

- 1- The continuous changes in ship automation, where the main drive in automation is towards the totally integrated ship, control center from which all functions of navigation, machinery and cargo handling can be supervised and controlled<sup>5</sup>.
- 2- The need for multi-purpose, intelligent crews.
- 3- Aspiration of students, demand for academic accreditation and academic recognition.

The 11<sup>th</sup> item of the list was about the requirements of regional and international shipping for manning of future ships.

The formerly Arab Maritime Transport Academy, inspired by the conclusion reached from the aforementioned research project decided to change its organization structure from departmental approach to faculty approach. Since 1990, the organization structure of the academy has been changed into:

- College of Maritime Transport and Technology
- College of Engineering and Technology
- College of Management and Technology
- Maritime Research and Consultation Center.

### **3. The Second Major Research Project**

From 1990 to 2002, the Arab Academy for Science and Technology and Maritime Transport considerably expanded in terms of size, functions, activities and locations.

The College of Engineering and Technology, for example, started in 1990 with 3 main departments, In the year 2000, this college comprises 10 departments, functioning from three remoted sites, several hundred kilometers apart.

The Maritime Transport College and the College of Management and Technology expanded in large scales. The branches of each college are outside Alexandria town, and some located in other Arab countries. Larger number of students and faculty members been recruited every year. They are from different parts of the country and/or other countries. It worth mentioning that a new specialized institute entitled Productivity and Quality Institute was established in November 1994 after being certified for ISO 9001, as a comprehensive and flexible provider of specialist services. The fundamental element of thinking in this institute is that the Ethical and moral quality is never an accident, it requires always a good intelligent effort. This institute was assigned in a major research project to enhance quality assurance for the three main colleges and their departments, educational programs, maritime research and consultation center, in addition to, 4 institutes namely:

- Sea Training Institute
- Advanced Management Institute
- Port Training Institute
- Integrated Simulators Center.

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<sup>3</sup> Abdel-Galil Maritime Training and Education for the Next Century, Paper 26, Impact of New Technology on the Marine Industries, Southampton, UK, 1993.

<sup>4</sup> Salama A.H Future Education Strategy, 2<sup>nd</sup> Seminar of ACAD 2000 Project, March 1989.

<sup>5</sup> Alam M.Z. Training and Seafarers, International Manning and Training Conference, Oct. 1992, Singapore.

The research project was to cover the work of other five deaneries that enhance the educational and research processes, namely:

- The Deanery of Academic Affairs
- The Deanery of Students Affairs
- The Deanery of Admission and Registration
- The Deanery of Educational Resources
- The Deanery of Community Services & Programmes.

Due to its concern about the students, the Academy established the Deanery of Student Affairs, which supervises social activities, especially the nautical and engineering students, who are required to stay for 2 years in the Academy's hostels. This requirement is due to the fact that service on board ships demands high standard of ethical behaviour, discipline and a sense of leadership<sup>6</sup>. The Academy aims at enhancing the sense of responsibility, devotion to work and pride in profession among the seafaring students.

Although the institute of productivity and quality was relatively a new branch, but it has a very good start which may be indicated from figure (2). This figure shows 40 consultation projects that have been executed by the institute<sup>7</sup>.

#### **4. The Project Procedures and Aims**

Although the Arab Academy used on having internal management auditing every single year and management external auditing on short intervals, the aforesaid project was extremely different. Approximately every faculty member was engaged in this project by one way or another for almost 3 years. It was requested from each teacher to review the contents of his/her course file and to suggest any modification required. The team leader of each subject will discuss the necessary adjustments required with subject teachers and to executed within a reasonable time. The objectives of each subject course are to be known to staff and students.

The deanery of each college is to review with heads of departments that the teaching methodologies are well planned, with clear links between curriculum content and teaching methods.

Programmes are also subject to regularly and systematically reviewed to assess their suitability. Teaching effectiveness is to be monitored in relation to stated objectives and to be evaluated regularly including students evaluation among others.

The deaneries of academic and students affairs are to develop documentation for the services been provided to students. These documents include but not limited to frequent reports to students on their academic progress, and accumulated record of attainment. The procedures should detect at an early stage if a student is in academic difficulty.

After two years of documentary procedures, two meetings between faculty members in one hand and representatives from institute of productivity and quality were held. In the first, a project plan towards AASTMT's ISO 9001 QMS Certification was presented and discussed.

The project plan started with a requirement from Quality Management System (QMS) of approval on the time table of December 98. The last item, number 12, is of a third party assessment on July 1999. The times and contents agreed upon by management of AASTMT and the faculty members.

Table (1) shows the time table and the functions included.

A week later, the second meeting attended by selected representatives for quality assurance. Figures (3) and (4) are samples of the Quality Management System (QMS), organization and document structure. The project ended on July 1999 by a successful third party assessment. A certificate of ISO 9001 was issued in Rotterdam on 4 September 1999. Figure (5) shows the ISO Certificate.

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<sup>6</sup> Dr. Gamal Mokhtar President of the Arab Academy for Science and Technology and Maritime Transport, Catalogue of 2000-2002, Page 11.

<sup>7</sup> Dr. Sherif El-Araby The Productivity and Quality Institute Catalogue 2002, Page 9.

## **5. Conclusion**

The Arab Academy for Science and Technology and Maritime Transport has grown in size and activities by almost ten folds since 1990, expanded outwards in sites and locations. Some branches are located outside Egypt. Therefore, the management of the Academy looked for quality assurance as a necessary measurement of control.

From the management point of view, the most important part of the quality assurance is how to achieve consistency in methodology and contents of curriculum all round the head quarters and branches of the Arab Academy.

The Arab Academy has had good reputation, nationally and internationally, which raise morals among students and lecturers. On the other hand, the Academy seeks, all the time, to identify and meet customers requirements. This goal better achieved by coordination with international standards organization. This time the international organization made the third party assessment and the issue of ISO certificate.

Nowadays, every subject matter of a teaching course in every curriculum is well defined in detailed document, every subject matter will be delivered in any branch in same method and content as in the head-quarter site.

Frustration among lecturers and/or students in a remote branch is not to exist. On the contrary, the management was more able and has created a culture of continuous improvement in every aspect of teaching and training.

## **Author s Biography**

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Maritime Councilor, Arab Academy for Science and Technology and Maritime Transport.

## **List of References**

- 1- Maher. S., The Maritime in Islamic Egypt and its Effect, Egypt Ministry of Education.
- 2- Abdel-Galil S., Maritime Education for Intelligent Ship ERA, Journal of Arab Academy, Vol. 20 No. 40, July 1995, PP 10-19.
- 3- Abdel-Galil S., Maritime Training and Education for the Next Century, Paper 26, Impact of New Technology on the Marine Industries, Southampton, UK, 1993.
- 4- Salama A.H, Future Education Strategy, 2nd Seminar of ACAD 2000 Project, March 1989.
- 5- Alam M.Z., Training and Seafarers, International Manning and Training Conference, Oct. 1992, Singapore.
- 6- Dr. Gamal Mokhtar, President of the Arab Academy for Science and Technology and Maritime Transport, Catalogue of 2000-2002, Page 11.
- 7- Dr. Sherif El-Araby, The Productivity and Quality Institute Catalogue 2002, Page 9.



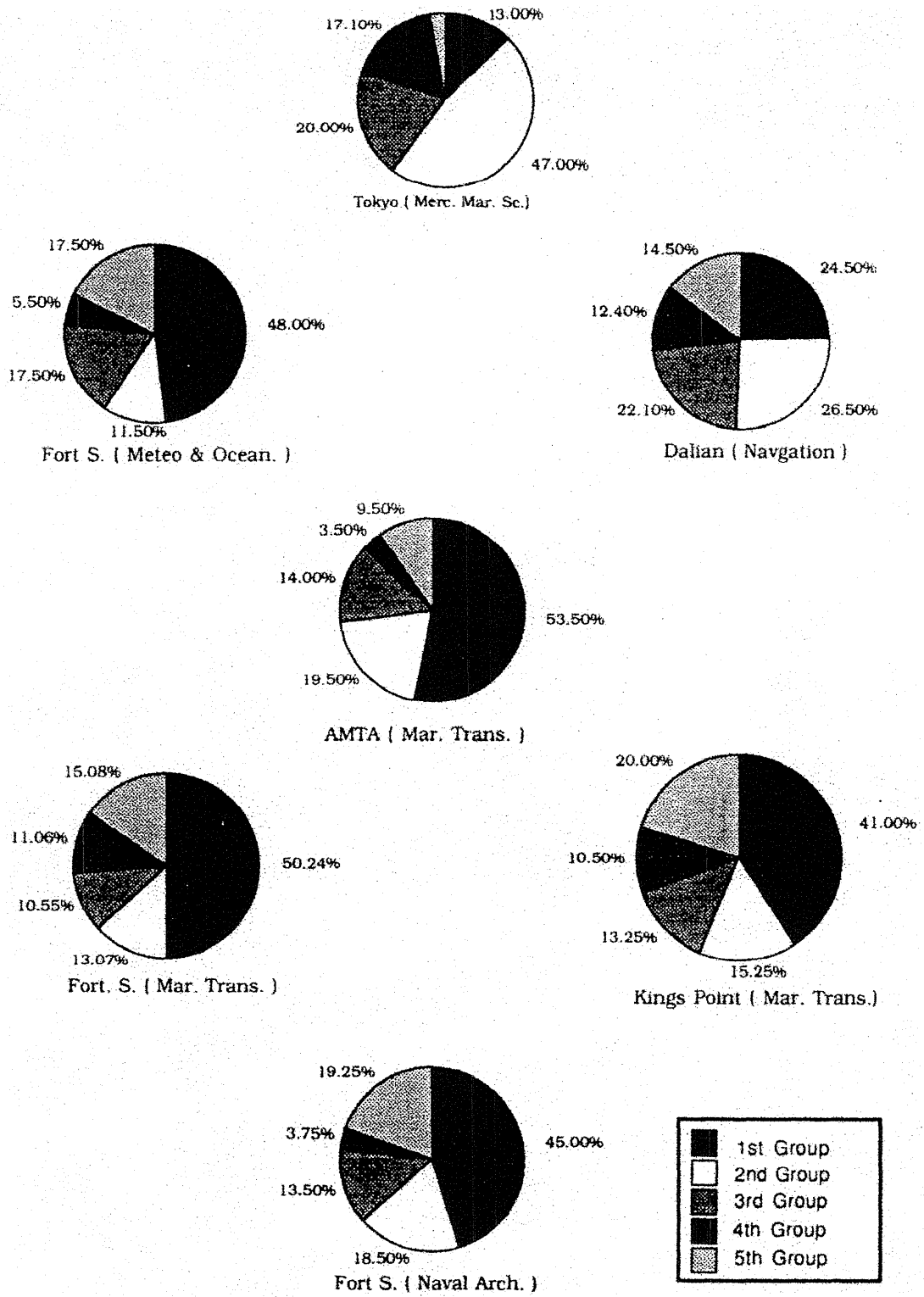


Figure No. (1)

**We have successfully Implemented and guided a numerous number of companies towards Quality/Environmental System certifications:**

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>• Alex Tire Company</li> <li>• Queen Interiors for furnishing</li> <li>• El-Nasr Tanning</li> <li>• The International Company for Industrial Development (Devco)</li> <li>• Sika Egypt for chemical construction materials</li> <li>• Itag</li> <li>• Memphis, Amoun, Abu-Simbel and Tiba</li> <li>• The Egyptian Warehouse</li> <li>• El-Nahas Company</li> <li>• Nile Textures Company</li> <li>• The Arab United Company for Shipping</li> <li>• The Egyptian Company for Importing</li> <li>• El-Golan Jeansware</li> <li>• Teefour for printing</li> <li>• Seeza Adidas Clothing</li> <li>• Unifarma for pharmaceutical products</li> <li>• Tariq El-Harir for Tourism</li> <li>• Tarq Bin Ziad for publishing</li> <li>• Fire Extinguishers Company</li> <li>• El Wadi for exporting Agriculture products</li> <li>• Suez Canal for Constructing</li> <li>• Suez Canal Agencies</li> </ul> | <ul style="list-style-type: none"> <li>• Misr for chemical manufacturing</li> <li>• Egyptian company for ship building and repair</li> <li>• General Motors Egypt (GME)</li> <li>• Port Said Containers Handling</li> <li>• Damietta for Container Handling</li> <li>• Sornaga Porcelain Company</li> <li>• International Navigation Agencies Company</li> <li>• RACTA for Paper Manufacturing</li> <li>• Mido for Paints Manufacture</li> <li>• Maritime Company for Navigation Works</li> <li>• Africa Storing Company</li> <li>• El-Madina El-Menawarw Estate Investment Company</li> <li>• Red Naf Navigation Company</li> <li>• Misr Fire Extinguisher Company</li> <li>• Tymor Language School</li> <li>• Atlas Agencies Company</li> <li>• Sea Gull Agencies Company</li> <li>• Red Mar Agencies Company</li> <li>• Arab Academy for Science and Technology and Maritime Transport</li> </ul> |
|---|--|

..... and many more

*Figure No. (2)*

<b>Project Plan</b>	
Approve Project Plan	December 98
Train Quality Representatives	December 98
Develop Quality Plans	January - March 99
Agree Procedures	January 99
Develop Procedures	January - March 99
Implement System	January-March 99
Conduct Internal Audits	May - July 99
Implement Corrective Actions	May - July 99
Conduct Mock Assessment	June 99
Management Status Meetings	Monthly
Management Review Meeting	June 99
Third Party Assessment	July 99

*Table No. (1): The Time Table for AASTMT s ISO 9001 QMS*

<b>QMS Organization</b>
<p>◆ <b>President</b> Responsible for articulating the Academy's overall strategy and monitoring and approving associated policies and plans.</p> <p>◆ <b>Management Representative (MR) :</b> Responsible for ensuring that the Quality Management System is implemented effectively, throughout the Academy and for reporting on its effectiveness to senior management through the Management Review process, The Deputy for Executive Affairs is the nominated Management Representative.</p>

<b>QMS Organization continued</b>
<p>◆ <b>Academy Quality Representative (AQR)</b> Responsible for coordinating the implementation and maintenance of the Quality Management System on behalf of the Management Representative and for liaising with the departmental Quality Representatives. The Dean of the Productivity and Quality Institute is the nominated AQR .</p> <p>◆ <b>Quality Representative (QR)</b> The owner of each Quality Plan appoints a local Quality Representative who is responsible for the maintenance of the Quality System within the unit(s) covered by the plan.</p>

*Figure No. (3)*

<b>Documentation Structure</b>
<p>◆ <b>Management System Manual</b> This document contains the Academy's policy and objectives for quality. It defines the key responsibilities of those who manage the various functions within the Academy and gives a summary of the core business and supporting processes which enable it to meet its business objectives.</p> <p>◆ <b>Quality Plans</b> These documents contain further detail as to the Organization and services provided by units within the Academy (e.g. Colleges, Institutes). They also contain a matrix of the applicable Management Procedures.</p>

<b>Documentation Structure continued</b>
<p>◆ <b>Management Procedures</b> These documents describe the key processes within the Academy. They define responsibilities and methods of control and ensure compliance with ISO 9001. They fall into three categories: Core Business, Business Support, ISO support.</p> <p>◆ <b>Work Instructions</b> These documents supplement Management Procedures and are developed when there is a need to provide prescriptive detail in order to ensure consistency in the performance of a task,</p>

*Figure No. (4)*



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# DET NORSKE VERITAS

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## QUALITY SYSTEM CERTIFICATE

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Certificate No. QSC - 3935

*This is to certify that  
the Quality System  
of*

**ARAB ACADEMY FOR SCIENCE, TECHNOLOGY  
AND MARITIME TRANSPORT**

at  
Alexandria, Egypt

*has been found to conform to the Quality System Standard:*

**ISO 9001:1994**

*This Certificate is valid for the following product or service ranges:*

**DEVELOPMENT AND DELIVERY OF PROGRAMS OF STUDY  
LEADING TO BACHELOR DEGREES IN  
MARITIME TRANSPORT, ENGINEERING AND BUSINESS ADMINISTRATION**

*Place and date:*  
Rotterdam, 4 September, 1999

*This Certificate is valid until:*  
4 September, 2002

*for the Accredited Unit:*  
DNV CERTIFICATION B.V.,  
THE NETHERLANDS

Ron J. Meijer  
Management Representative



Accredited  
by the RvA

*Original Certification date:*  
4 September, 1999

Sherif Mekkawy  
Lead Auditor

Lack of fulfilment of conditions as set out in the Appendix may render this Certificate invalid.

*Figure No. (5)*

## **Course File Summary:**

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### **ME (151) Engineering Drawing and Descriptive Geometry**

#### **Course Information :**

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Course Title: Engineering Drawing & Descriptive Geometry.  
Code: ME 151 .  
Hours Lecture:3 Tutorial:3 Credit:2  
Prerequisites: None.  
Lecturer:  
Assistants:  
Room:

#### **Grading :**

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Class Performance / Attendance	10%
Midterm # 1/ Assignments : ( 7 <sup>th</sup> week )	30%
Midterm # 2/ Assignments : ( 12 <sup>th</sup> week )	20%
Final Exam	40%

#### **Course Description:**

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(a) Engineering drawing introduction, types of lines, Sizes of drawing papers, Layouts of drawing sheets, Graphics instruments, scales, Geometrical construction, Orthographic projection, Sectioning, Dimensioning, pictorial drawing, Conventions.

(b) Descriptive geometry locus of a point, Monge's projection, Straight line (particular positions), The plane, Auxiliary planes, The positional problems, The projections of a circle, Curved surfaces, Intersection of surfaces of revolution, Helix – Helical surfaces, Perspective projection.

#### **Text Books :**

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- (a) Engineering Drawing Book, prepared and edited from several related books .
- (b) Descriptive Geometry Book, prepared and edited from several related books

#### **Reference Books:**

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- (a) BOGOLYULOV S. A. Voinor, *Engineering drawing*, Latest edition Mir publishers Thomas E. French *Engineering Drawing and Graphics Techniques*, Latest edition, Mc Graw – Hill.
- (b) GORDON V.O. and SEMENITSOBY M.A. *A Course in Descriptive Geometry*. Moscow Mir Pub., 1980.
- TIZZARD Rew, *An Introduction to computer aided Engineering*. N.Y., 1994.
- **Books available in the AAST Library.**

#### **Course Aim:**

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(a) To give the student the ability to communicate by means of Engineering Drawing, and to relate the applications of drawing techniques to mechanical engineering practice.

(b) identify the fundamentals of Descriptive Geometry. To develop three- dimensional imagination of forms and methods of presenting them in the plane. To acquire the skill of dealing with complex figures and study their geometrical properties.

#### **Course Objectives:**

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(a) To provide the basic information for engineering drawing and to gain practice in drawing, as well as knowing the different types for drawing, such as sectioning, pictorial drawing...etc.

(b) To provide the basic information of practical geometry for students and to develop their three dimensional imagination. The graphic solutions enhance the ability of student to deal with complex figures and visualize their relative positions in space, hence, study their geometrical properties .

## **Course Outline:**

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### **(a) Engineering Drawing:**

**Week No.1:**

Introduction to engineering drawing and geometrical construction

**Week No.2:**

Geometrical constructions

**Week No.3-4:**

Three views projection

**Week No. 5-6:**

Third view projection

**Week No.7:**

Quiz

**Week No.8:**

Third view projection

**Week No.9-10-11:**

Sectioning.

**Week No.12:**

Quiz

**Week No.13-14:**

Pictorial (Isometric) Drawing

**Week No.15:**

General revision or any pending.

**Week No.16:**

Final Exam

### **(b) Descriptive Geometry:**

**Week No.1:**

Monge Projection (Projection of a point)

**Week No.2:**

Projection / traces of a straight line

**Week No.3:**

Particular positions of straight lines

**Week No.4:**

Projection of a plane

**Week No. 5:**

Particular positions of planes

**Week No.6:**

Auxiliary planes: True length of an oblique line

**Week No.7:**

Edge view of an oblique plane

**Week No.8:**

Positional problems pt. of int. of line and plans

**Week No.9:**

Pt. On plane, two parallel planes.

**Week No.10:**

Projection of a circle.

**Week No.11:**

Surfaces of Revolution.

**Week No.12:**

Intersection of two surfaces

**Week No.13-14:**

Perspective

**Week No.15:**

Perspective and model exams.

**Week No.16:**

Final Exam