

VALIDATION REPORT

for

QUALITY ASSURANCE PROGRAM OF THE AAU (QAP/AAU)

in

FACULTY OF ENGINEERING ASSIUT UNIVERSITY ASSIUT, EGYPT

September, 2002

CONTENTS

Preface

Executive Summary

1. Introduction
2. Evaluation Method
3. Vision, Mission, Goals and Objectives
4. Teaching and Learning
5. Research
6. Organizational and Management Structures
7. Strategic Planning and Human Resources
8. Faculty and Community life
9. Facilities
10. Norms, Values and Ethics
11. Gender Equity
12. Internationalization
13. Response to changing social Demands
14. Conclusions and Recommendations

EXECUTIVE SUMMARY

This report presents the observations and findings of a performance assessment exercise carried out in December 2001, to validate the self-evaluation of the Faculty of Engineering, Assiut University, Egypt. The first stage of the exercise, focused on the study and analysis of the self-evaluation report submitted by the Faculty, which was followed by a quality-audit visit to the relevant departments/units and collection of additional statistical data.

The Faculty, which was established in October 1957, presently offers 33 academic programs through five departments. The quality of education in architectural, civil, electrical, mechanical and mining/metallurgical engineering is confirmed to be very good. All aspects of the Faculty's activities offer staff and students rewarding teaching and learning experiences, conducive for the training of high caliber professional engineers. Several aspects of the education being provided by the Faculty are distinctly positive. These include: well-planned curriculum, physical facilities which are generally very good with regards to space standards and a uniquely effective tutoring arrangement.

The report also draws attention to some areas needing consideration, where there remains scope for improvement and performance enhancement. It is essential for the Faculty to create innovative ways for the provision of additional resources for research. It is also recommended that some of the laboratories be upgraded and modernized. There is also a need to attract more international students and scholars from outside the Arabian catchments area.

1. INTRODUCTION

(1.1) This Report presents the observations and findings of a performance assessment exercise carried out in December 2001, to validate the Self-Evaluation Report of the Faculty of Engineering, Assiut University, Egypt.

(1.2) The entire evaluation process of the Faculty, carried out under the Quality Assurance program of the Association of African Universities (QAP/AAU), was geared towards an informed, knowledge-based, independent and objective assessment of the quality of engineering education being provided by Assiut University.

(1.3) Assiut University was established in October 1957, with the Faculty of Engineering as one of the two pioneering faculties. The University is a complete-campus-university, with nearly all the academic buildings and residences, for students and a section of the staff, on a single, extensive and self-contained site.

(1.4) Presently, the Faculty of Engineering has 5,431 students (undergraduates and postgraduates) in five Departments, namely:

- Architectural Engineering;
- Civil Engineering;
- Electrical Engineering;
- Mechanical Engineering; and
- Mining and Metallurgical Engineering.

(1.5) The Faculty has 203 faculty staff members, complemented by 24 Emeritus Professors, 127 Instructors and Graduate Assistants.

(1.6) Most of the students are products from schools of the Southern-most governorates of Egypt. However, there are also some students from other parts of Egypt, and from other Arab countries as well, but negligible number of international students from outside the Arabian catchments area. The gender distribution is approximately 80% male and 20% Female.

(1.7) The aims and objectives of the Faculty are well articulated, published and widely circulated. These may be summarized as “Optimal advancement of learning through research and teaching, for the benefit of students and society at large; geared towards meeting national manpower needs and strategic economic development”.

(1.8) The Faculty offers 33 complete academic programs at both undergraduate and postgraduate levels, in a wide variety of engineering fields, through the 5 departments.

(1.9) The medium of instructions is essentially English, except for the Architectural Engineering Program.

2. EVALUATION METHOD

(1.1) A careful study and analyses of the Self-Evaluation Report submitted by the Faculty of Engineering was first carried out, prior to the quality-audit visit; so as to enable familiarity with the data/information provided, and to facilitate the preparation of a comprehensive checklist of relevant things and issues to be raised and discussed during the visit to the Faculty.

(1.2) Subsequently, the various Units and Departments in the Faculty were visited. There were formal meetings, interviews and discussions with various segments of the students and staff, (academic, administrative and technical) to facilitate the collection of relevant information in respect of the quality-audit assignment, and to enable on-the-spot verification of the claims in the self-evaluation report. Evidences of good quality assurance practices were collected, along with other practices, which may be classified as sub-standard or likely to compromise quality.

(1.3) Arrangements were also made to gather additional relevant information, through informal interaction with staff and students of the Faculty, as a veritable channel for a comprehensive and thorough validation exercise, involving all the multi-dimensional activities of the Faculty.

3. VISION, MISSION, GOALS AND OBJECTIVES

(1.1) As stated in the self-evaluation report, it is evident that the vision of the Faculty is in accord with that of Assiut University. The mission statement of the Faculty is clearly stated, well articulated and linked directly to that of the Assiut University, which is centered on the optimal advancement of learning through research, teaching and the dissemination of knowledge for the mutual benefit of students and the

society at large.

(1.3) The goals and objectives of the Faculty are consistent and in conformity, with its stated vision and mission. The multi-dimensional activities of the Faculty are designed and carried out to enable the realization of its vision, and the accomplishment of its mission.

(1.4) **Table 3.1** provides a checklist and summary of the findings in respect of the performance of the Faculty with regards to vision, mission, goals and objectives.

Table 3.1: Vision, Mission, Goals and Objectives:

	QUALITY INDICATOR	YES / NO	REMARK
1.	Institutional vision and mission statements exist	Yes	
2.	Statement is well publicized on-and off-campus	Yes	
3.	All stakeholders identify with the institution's vision and mission	Yes	
4.	The institution's goals and objectives conform with its vision and mission	Yes	
5.	Institution's activities are carried out with deference to its vision and mission	Yes	

4. TEACHING AND LEARNING

(1.1) The various programs on offer in the five departments of the Faculty have distinctive features and have considerable relevance to industry and agriculture. This is taken into consideration in the curriculum design, content and organization.

(1.2) The Faculty has 19 lecture theatres with a total seating capacity of 4000 students, and 42 lecture-rooms with a total seating capacity of 1700 students. They are generally spacious, well ventilated and have some range of teaching aids. It is however disappointing that there is no provision for modern multi-media projectors, especially in the lecture theatres. These are expected to reinforce the learning process if and when provided.

(1.3) Observation of lectures in-progress confirmed that, in all cases, the Lecturers handle their teaching professionally with well-prepared materials. The students' interaction and response to the teaching were also quite good.

(1.4) Teaching methods include formal lectures using conventional techniques such as chalk/blackboards and printed lecture notes.

(1.5) The Faculty and University continue to offer a generous support and encouragement to Lecturers to upgrade their lecture notes and turn them into standard textbooks for the use of the students.

(1.6) Each Department has a library with a reasonable amount of holdings (books, periodicals and reports) in Arabic, English, French and German. However, there is an urgent need to greatly increase the amount of holdings for a sustained capacity building.

(1.7) Generally, the provision of learning resources is adequate for the scope of the curriculum. However, improvements are recommended in certain aspects to meet the need and aspiration of students, especially in the area of student-centered independent learning through computer aids and study-packs. It is also desirable for students in the Architectural Engineering Department to benefit from Industrial Attachment schemes.

(1.8) The University is quite conscious of the crucial role of a good library in the provision of an excellent teaching/learning environment. A new air-conditioned university central library is slated for inauguration before the end of 2002. It is envisaged that the new library will remain open for 16 hours daily (8a.m-12 midnight). There will be a special section where about 1,000 students can study and review their courses with the aid of state-of-the-art ultra-modern gadgets.

(1.9) The University has a University Performance Evaluation and Development Unit (**UPEDU**). The Faculty periodically administers questionnaires, which are designed to assess the extent to which learning outcomes are achieved. **UPEDU** helps the Faculty to analyze the data collected from the questionnaires and follows the development prompted by the outcome, for effective monitoring and control.

(1.10) It is confirmed that the standard of the graduation projects is generally good in the entire faculty. It is noteworthy that the quality of the projects in the Architectural Engineering Department is distinctively very high.

(1.11) **Table 4.1** provides a checklist and summary of the findings in respect of the performance of the Faculty with regards to teaching methods and technologies.

(1.12) **Table 4.2** provides a checklist and summary of the findings in respect of the performance of the Faculty with regards to teaching and learning resources/activities.

(1.13) **Table 4.3** provides a checklist and summary of the findings in respect of the performance of the Faculty with regards to assessment process design and validation.

Table 4.1: Teaching Methods/Technologies

	DEPARTMENT	A	B	C	D	E	REMARK
1.	Architectural Engineering	Yes	No	Yes	Yes	Yes	
2.	Civil Engineering	Yes	No	Yes	Yes	Yes	
3.	Electrical Engineering	Yes	No	Yes	Yes	Yes	
4.	Mechanical Engineering	Yes	No	Yes	Yes	Yes	
5.	Mining & Metallurgical Engineering	Yes	No	Yes	Yes	Yes	

* Legend for Table 4.1

A = are printed lecture notes handed out in class?

B = do lecturers use overhead projector for teaching?

C = are photocopying facilities available?

D = do most students have standard textbooks?

E = computer simulations/modeling and calculations?

Table 4.2: Teaching and Learning Resources

	QUALITY INDICATOR	YES / NO	REMARK
1.	Process of selecting students to participate in a course ensures quality inputs	Yes	
2.	Each course has well stated aims and expected learning outcomes	Yes	
3.	Aims and expected learning outcomes are compatible	Yes	
4.	Expected learning outcomes compare favorably with international standards	Yes	
5.	Design and organization of course curriculum promote student learning and good performance	Yes	
6.	A thorough process for the design, updating and approval of curriculum exists	Yes	
7.	Student workloads do not impede learning	Yes	
8.	Student-teacher interaction and engagement exist and are encouraged	Yes	

9.	Information about student progression/retrogression exists and is periodically analyses and actions taken to eliminate/reduce the effects of undesirable trends	Yes	
10.	A process of academic guidance and counseling for students exists, and is reviewed from time to time	Yes	
11.	Tutorial support for students exists	Yes	
12.	Facilities exist to enhance teaching and learning	Yes	
13.	Teaching takes new research findings and professional developments into account	Yes	
14.	Mechanisms exist for monitoring and evaluating the effectiveness of teaching	Yes	
15.	Teaching is periodically evaluated	Yes	
16.	Teaching is taking into account for staff promotion	Yes	

Table 4.3: Assessment Process

	QUALITY INDICATOR	YES / NO	REMARK
1.	Assessment process designed to check the extent to which learning outcomes are achieved	Yes	
2.	Assessment process enables students to demonstrate the extent to which they have achieved the expected learning outcomes	Yes	
3.	Stakeholders have confidence in the integrity of the assessment process	Yes	
4.	Assessment is validated by external examiners and/or professional bodies	Yes	

5. RESEARCH

(1.1) There is clear evidence that the Faculty is committed to research as a potent problem-solving tool, based firmly on the twin principles of selectivity and concentration of effort.

(1.2) The Faculty has a total of 68 laboratories in the five departments. The state of the hardware in the departmental laboratories can be broadly classified into three groups: Good, Adequate and Poor. The High-

Tension Laboratory in the Electrical Engineering Department is quite good; the electronic lab needs more kits, while the Control Laboratory needs upgrading. In the Mining Engineering Department, the average age of the equipment is rather high. There is an urgent need for modernization, particularly in the mineral-processing laboratory.

(1.4) It is commendable that the Faculty has a deliberate research policy, which encourages a good balance between individual research efforts and multi-disciplinary research groups.

(1.5) The research output of both staff and postgraduate students are regularly published in scholarly technical journals and conference proceedings (national and international). Examination of the research article publication record of departments has shown that Mechanical Engineering Department has the highest number (about 450), while Architectural Engineering Department has the lowest number (about 50).

(1.6) The University is also very supportive of the Faculty research efforts through a generous sponsorship of the annual international conference.

(1.7) International cooperation with other researchers worldwide is encouraged. For instance, researchers in the Civil Engineering Department are collaborating with their counterparts in Tuskegee University, Alabama, U.S.A. on a research project on "sugarcane waste for the purification of water resources", worth \$300,000 over three years.

(1.8) It is confirmed that the University provides generous study leave and travel grants to enable academic staff to interact with international colleagues and to keep in touch with the latest research techniques and advances. In addition, each Faculty member is entitled to a conference travel grant, once in two years, for conference paper presentation.

(1.9) The Faculty undertakes consultancy services, which are directly linked to research capability. Clients include sugar Integrated Industries Company, Egyptian Energy Authority and Assiut Cement Company. Profit generated from this particular source reached six million Egyptian pounds over the last five years. Out of which about 125,000 Egyptian pounds was ploughed back into research equipment and activities.

(1.10) The University provides the Faculty with about 25,000 Egyptian Pounds annually, which is disappointingly low. However, for a

relatively young university, the Faculty research effort is quite encouraging, but resources outlay for research is in general limited and rather on the low side.

(1.12) Library support for research in the Faculty comes through the five departmental libraries and two special libraries for preparatory-year and graduate students. The combined holdings of the libraries in the Faculty are 59,533 textbooks, 574 conference proceedings and 102 periodical journals. There remains a need for a significant increase in the number of periodical journals, especially in the Architectural Engineering Library.

(1.13) It is confirmed that each department is equipped with student computer laboratory and software programs. Most staff members have computers in their offices and access to Internet connectivity. Those without computers have access to staff computer laboratories. On the whole, the total number of desktop computers in the Faculty is 550, including those installed in the administrative and library units. It is encouraging to note the desire of the University to double the number of computers, if funds become available.

(1.14) **Table 5.1** provides a checklist and summary of the findings in respect of the performance of the Faculty with regards to research related activities and resources.

Table 5.1: Research (Funding, Facilities/Extension Services etc)

QUALITY INDICATOR		YES / NO	REMARK
1.	Institution is committed to research is one of its fundamental missions	Yes	
2.	A well articulated research policy exists and is known to all stakeholders	Yes	
3.	Research funds are available annually from the institution's budget	Yes	
4.	Credible and transparent criteria exist for the disbursement of research funds and are known to all stakeholders	Yes	
5.	Laboratories and libraries are equipped to support the type of research in which staff and students are engaged	Yes	
6.	A large percentage of staff is engaged in research activities	Yes	

7.	Staff members compete for and attract external funds for research	Yes	
8.	Research output (papers, inventions, patents, etc) is high	Yes	
9.	Researchers are involved in international networking and collaboration	Yes	
10.	Postgraduate research and supervision exist and are well established	Yes	
11.	Extension activities are undertaken by institution to disseminate practical research findings to the community	Yes	
12.	Consultancy services linked to research capability are undertaken and generate funds for further research	Yes	

6. ORGANISATIONAL & MANAGEMENT STRUCTURES

(1.1) From the series of meetings, interviews and discussions with the Dean and other members of the Faculty administration team, it is evident that the Faculty leaders and the assistants are eminently capable, credible and transparent.

(1.2) The Dean, with three Vice-Deans to assist him, heads the Faculty. The roles of all administrative staff are clearly defined. They discharge their duties and responsibilities cheerfully and enthusiastically.

(1.3) The Faculty management structure and distribution of duties is evenly spread. There is evidence of team spirit and esprit-de-corp. The working environment is neat, spacious and well furnished.

(1.4) 23-member Statutory Council supervises the academic matters and policies of the Faculty, with the Dean as the Chairman. All interest groups in the Faculty are adequately represented in the council, which is also under the guidance of the Governing Council of the University.

(1.5) Each department also has a council, which administers the affairs of the department under the guidance of the Faculty Council.

(1.6) **Table 6.1** provides a checklist and summary of the findings in respect of the performance of the Faculty with regards to organizational and management structures.

Table 6.1: Organizational and Management Structures

	QUALITY INDICATOR	YES / NO	REMARK
1.	A credible, capable and transparent leadership is in place	Yes	
2.	A well-developed organizational structure, incorporating relationships and functions, is in place and is well publicized to all stakeholders	Yes	
3.	Management structure and activities enhance the realization of institution's vision and mission, as well as its aims and objectives	Yes	
4.	There is a good channel of communication between management, staff, students and other stakeholders	Yes	
5.	Organizational and management structures are periodically reviewed to ensure that they meet institutional needs	Yes	

7. STRATEGIC PLANNING AND HUMAN RESOURCES

(1.1) The Faculty has a strategic plan for resource allocation to meet the Faculty aims and objectives, which is aligned with that of the University and subject to the funding constraints of the University.

(1.2) Budgeting is taken seriously and is handled realistically and systematically. It is carried out bottom-up, with the different units originating their own budgets, however, always being mindful of the abiding constraints of the Faculty and University budgets.

(1.3) Measures are in place to check and minimize budgeting malpractice at all levels in the Faculty.

(1.4) The staff strength in some sections is not adequate, as stated by some staff that complained of being over-stretched and over-worked.

(1.5) **Table 7.1** provides a checklist and summary of the findings in respect of the performance of the Faculty with regards to strategic planning, budgeting and human resources.

Table 7.1: Planning, Budgeting and Human Resources

	QUALITY INDICATOR	YES / NO	REMARK
--	-------------------	----------	--------

1.	Institution has a strategic plan, or plans to develop or is developing, a strategic plan	Yes	
2.	Units of the institution have their own strategic plans which are compatible with the institutional strategic plan	Yes	
3.	Physical planning is carried out in consonance with institutional strategic plan	Yes	
4.	Financial planning is carried out in consonance with institutional strategic plan	Yes	
5.	Academic planning is carried out in consonance with institutional strategic plan	Yes	
6.	Information on expenditure, balances, etc is readily available on request to units	Yes	
7.	Measures are in place to reduce or eliminate any budgeting malpractice at all levels	Yes	
8.	Recruitment of staff ensures high quality inputs	Yes	
9.	Management appreciates the importance of human capital and its continual development	Yes	
10.	Staff members are well motivated and treated fairly	Yes	
11.	The staff strength in every unit is adequate for the tasks to be performed	No	
12.	Staff and student discipline is upheld fairly and firmly	Yes	
13.	Staff development policy and process exist and are implemented with transparency	Yes	

8. FACULTY AND COMMUNITY LIFE

(1.1) There is evidence that both students and staff see themselves as partners-in-progress. Once a year, students have a chance to carry out a formal statutory evaluation of teaching and laboratory resources and activities, as well as the quality of the graduation projects works. Their findings and assessment are reported to the Dean of the Faculty, who will in turn report to the President of the University. The scientific committee of students often initiates and pushes for reform.

(1.2) The Faculty has a student tutoring arrangement, whereby student and staffs are divided into families. A typical family comprises of 60-80 students (male/female) and 2 staff advisors.

(1.3) There is evidence that both staff and students are actively involved in Faculty decision-making using well laid-out processes and procedures. The Faculty undergraduates' student union serves as the main liaison organ between the students and faculty, staff and administration; using an effective committee system.

(1.4) The Faculty publishes regularly a high quality scientific journal entitled "Bulletin of the Faculty of Engineering." It's wide-circulation is mainly in Egypt and Arabian Universities, and a few overseas libraries.

(1.5) Some of the Departments have been able to successfully organize international conferences on campus, through the encouragement and support of the Faculty and the University.

(1.6) The Faculty has an active Internet website (<http://www.aun.eun.eg>). There are about 150 Internet nodal-points available to the staff and students. In addition, the Faculty staff and students also have access to the center-based high-speed Internet services being offered by the Assiut University Internet Centre. It is the fastest in Egypt to date. There is an expressed need and desire to double the number of Internet nodes and desktop computers as soon as fund is available.

(1.7) The Faculty staff and students have direct access to the excellent sporting and recreational facilities provided by the university in and around a large stadium complex. The Faculty has a lot of medals and laurels to show for past victories in the tournament of all Faculties of Engineering in Egypt.

(1.8) The university on-campus living conditions for both staff and students are remarkably excellent, and they are conducive to learning, teaching and research. Many students from the Faculty and some staff members are accommodated. There are 20 university restaurants offering about 30,000 meals per day to students. In addition there is a mullet's floor complex central restaurant accessible to both students and staff. This is further complemented by the services of the near by Staff Club.

(1.9) It is evident that the Faculty has made a virile and positive impact on the community and surrounding industrial companies, essentially through its four special units:

- Centre for Engineering Studies and Consultations;
- Centre for the Maintenance of Scientific Devices;

- Centre for Preparing Technical Reports and Printing;
- Workshop Production Unit.

(1.10) **Table 8.1** provides a checklist and summary of the findings in respect of the performance of the Faculty with regards to community relations.

Table 8.1: Faculty and Community Relations

QUALITY INDICATOR		YES / NO	REMARK
1.	The different categories of staff work as a team and in harmony	Yes	
2.	A student-staff partnership exists and thrives	Yes	
3.	Staff and students are actively involved in decision-making and the formulation of institutional	Yes	
4.	Staff and students are encouraged to interact with the community at large	Yes	
5.	Outcomes of institution's activities are periodically disseminated to the community at large through publications, seminars, conferences, workshops, exhibitions, etc	Yes	
6.	Good service to all categories of the institution's customers (staff, students, members of the community at large) is entrenched through training and practice	Yes	
7.	Institution possesses a website where information about it, as well its range of activities, is globally available	Yes	
8.	Staff and students are aware of global trends and work towards taking advantage of, or adjusting, to them	Yes	
9.	Living conditions for staff and students on campus are conducive to learning, teaching and research	Yes	
10.	Facilities exist for sports and recreation	Yes	
11.	Institution strives to build a multicultural campus through diverse cultural activities and services	Yes	

12.	Institution possesses and implements a credible environmental policy	Yes	
-----	--	-----	--

9. FACILITIES

(1.1) There are a number of noteworthy features of the physical facilities, in terms of office space, for staff and lecture-theatres/lecture-rooms for students. They are reasonably adequate and all very neat, with potted plants along the corridors. There are also very wide and well ventilated walk-ways between adjacent buildings in the Faculty, with seating areas enabling greater interaction of students in-between lecture/laboratory activities.

(1.2) There remains scope for improvement in terms of upgrading, modernization and provision of some laboratory equipment, audio-visual teaching-aids and computers. For example, in the case of mineral processing laboratories in the Mining Engineering Department, list of requirements include: high intensity magnetic separator, particle size analyzer, slurry pumps for hydro-cyclones, ore chemical analysis apparatus. Electronics laboratory requires more kits and models, while the control laboratory needs upgrading. Equipment requirement in the mechatronics section include: 4-channel digital oscilloscope with computer interface, educational robots, electro-hydraulic servo-system, electro-pneumatic training unit, electrical servo-systems, electro-mechanical servo-systems, computer-aided-design and simulation software for fluid control systems and electro-mechanical systems.

(1.3) The Faculty has already identified the need to expand available office/classroom/laboratory space in view of the appreciable increase in the number of students enrolled in the Faculty in the 2001/2002 academic years. There is also an on-going effort to replace obsolete equipment, but funds availability remains the critical obstacle.

(1.4) Table 9.1 provides a checklist and summary of the findings in respect of the performance of the Faculty with regards to general facilities.

Table 9.1: Facilities

	QUALITY INDICATOR	YES / NO	REMARK
1.	Facilities, such as office/classroom/laboratory space, equipment, etc, are in adequate supply to support the institution's range of activities	Yes	

2.	Physical structures and other facilities are well maintained	Yes	
3.	Efforts are ongoing to periodically replace obsolete equipment and to expand available office/classroom/laboratory space	Yes	
4.	Staff and students are aware of their responsibilities to avoid the abuse of available facilities	Yes	

10. NORMS, VALUES AND ETHICS

- (1.1) The Faculty values very high ethical standards in all aspects of teaching, research and administrative activities. Its expectations with regards to the way in which staff and students discharge their duties, as responsible stakeholders, are evident and clearly stated in the Faculty's policies and procedures; which are designed to ensure openness, fairness and reliability in all official activities.
- (1.2) From all indications, members of staff have imbibed the Faculty's values, and they do make genuine effort to actualize them in the discharge of their duties.
- (1.3) Evidently, the Faculty is committed to standards, quality assurance and high ethical values. Presently, there is a Performance Evaluation and Development Unit that regularly monitors teaching and the achievement of learning outcomes. It will be advantageous to empower and expand the mandate of the unit, to include monitoring of non-teaching activities of the Faculty and University.
- (1.4) It is confirmed that the Faculty has a culture of involving relevant segments of its stakeholders in decision-making.
- (1.5) **Table 10.1** provides a checklist and summary of the findings, in respect of the performance of the Faculty with regards to norms, values and ethics.

Table 10.1: Norms, Values and Ethics

	QUALITY INDICATOR	YES / NO	REMARK
1.	A statement of the institution's values exist and is well publicized to all stakeholders	Yes	
2.	Staff actualize institution's values in the performance of their duties	Yes	
3.	Institution is committed to standards, quality assurance and high ethical values	Yes	

4.	Institution takes concrete measures to uphold or improve standards and ethical values	Yes	
5.	Institution has a culture of involving relevant segments of its stakeholders in decision-making	Yes	
6.	Staff are periodically reminded of institution's values	Yes	

11. GENDER EQUITY

(1.1) The Faculty is genuinely interested in gender equity as a policy. But there is no formal gender equity unit yet.

(1.2) Although there is no evidence whatsoever of gender-bias discrimination, nevertheless the number of students and staff (academic and non-academic) who are female is significantly low.

(1.3) It is to the credit of the Faculty that the Family, a tutoring arrangement, comprising of one or two staff and some students, needs to have both female and male students, as well as Moslems and Christians in its formation before it can be approved.

(1.4) It is noteworthy and impressive that there have been no complaints, to date, from students for having low grades as a result of religion or sex-discrimination, or any other form of prejudice.

(1.5) However, there is a need for the Faculty to deliberately introduce, practice and monitor affirmative action, so as to increase female representation in its engineering education programs and personnel.

(1.6) **Table 11.1** provides a checklist and summary of the findings, in respect of the performance of the Faculty with regards to gender equity.

Table 11.1: Gender Equity

	QUALITY INDICATOR	YES / NO	REMARK
1.	A gender equity unit exists and is active	No	
2.	A blueprint on the institution's commitment to gender equity and affirmative action exists, and well publicized	NO	
3.	Mainstreaming gender equity in institution's activities is ongoing and constantly monitored	NO	
4.	Affirmative action is practiced and regularly monitored	NO	

5.	Women staff members are involved in decision-making and implementation	Yes	
6.	Mentoring and role-modeling for female students and staff members are encouraged	Yes	
7.	Success of gender equity measures is periodically assessed	NO	

12. INTERNATIONALISATION

- (1.1) The Faculty sees itself as part of the global academic community. There are formalized links with industrial and research institutions in Arab countries, as well as agreements with 10 overseas universities including: Iowa State University, USA and Kyoto University, Japan.
- (1.2) It is confirmed that the Faculty has a systematic internationalization plan and process, which is directly linked to the university policies, geared towards staff development. Academic staff members are regularly sponsored to participate in overseas international conferences. In addition, the Faculty encourages the Departments to organize both national and international conferences.
- (1.3) Faculty members are also eligible to take “sabbatical-leave” to go overseas and carry out joint advanced research work with their overseas counterparts.
- (1.4) However, it is noteworthy that the number of international students in the Faculty is very low, almost negligible. A deliberate effort needs to be made to attract some good international students.
- (1.5) It will also be useful and advantageous to introduce a process whereby international scholars are also attracted and encouraged to spend their “sabbatical-leave” in the Faculty.
- (1.6) **Table 12.1** provides a checklist and summary of the findings, in respect of the Faculty performance with regards to internationalization.

Table 12.1: Internationalization

QUALITY INDICATOR		YES NO	REMARK
1.	Institution has an internationalization plan and process	Yes	
2.	Stakeholders are aware of the internationalization plan/process and their own responsibilities	Yes	

3.	Institutional activities are designed and implemented, taking international dimensions into account	Yes	
4.	Exposure of staff and students to international experiences is given priority	Yes	
5.	Campus is academically, culturally and socially conducive for international students	Yes	
6.	Design and implementation of Academic programs accommodate the concerns of international students	Yes	

13. RESPONSE TO CHANGING SOCIAL DEMANDS

(1.1) It is confirmed that the Faculty has put in place a mechanism to monitor and evaluate the changing needs of society, and how best to meet these needs; in order to remain relevant and to maintain competitive advantage.

(1.2) It is also confirmed that the Faculty has reliable mechanisms to periodically review and adjust academic and consultancy services in the light of changing societal preferences and needs, based on feedbacks from groups such as alumni, industries, employers, government agencies and professional bodies.

(1.3) The Faculty has avenues and modalities for meaningful and result-oriented dialogue with society and they are thriving.

(1.4) Table 13.1 provides a checklist and summary of the findings, in respect of the Faculty performance with regards to response to changing social demands.

Table 13.1: Response to Changing Social Demands

	QUALITY INDICATOR	YES / NO	REMARK
1.	Institution keeps abreast of the changing needs of society	Yes	
2.	Mechanisms are in place to periodically review and adjust academic and consultancy services in the light of societal preferences/needs	Yes	

3.	Avenues for dialogue with society exist and are thriving	Yes	
----	--	-----	--

14. CONCLUSIONS & RECOMMENDATIONS

(1.1) The overall quality of education in architectural, civil, electrical, mechanical, mining and metallurgical engineering at the Faculty of Engineering, Assiut University, Egypt is adjudged very good, based upon the observations and findings during the quality-audit visit, together with a careful analysis of the self-evaluation and additional relevant statistical data provided.

(1.2) It is confirmed that in general, all aspects of the Faculty activities offer staff and students, a stimulating and rewarding teaching/learning experiences, conducive for the training and production of high caliber professional engineers.

(1.3) There are several aspects of education and training in the Faculty of Engineering, which are quite positive, noteworthy and merit acknowledgement. These include the following:

- Both the Faculty and University have clearly laid-out plans to enable the realization of stated aims and objectives.
- Well-planned curriculum, along with the appropriate mechanism for periodical review, based on effective monitoring and evaluation.
- Staffs are well qualified academically and professionally, and they handle their duties responsibly.
- Physical facilities are generally very good with regards to space standards.
- The standard of project work and design portfolios is good and they are on display.
- There is good and dedicated leadership at the Faculty and University levels. Avenues are also provided for staff and students to participate actively in the decision-making process.
- It is particularly remarkable that the University provides a generous subsidy to lower the price of books authored by members of staff. Students find these books easily affordable.
- There is a good team spirit, "*esprit-de-corp*", in the
- Faculty, with staff and students seeing themselves as partners-in-progress.
- The tutoring arrangement whereby staff and students are divided into "Families" has proved very effective and advantageous. It is a great

credit to the Faculty that a Family needs to have both female and male students, as well as Moslems and Christians in its formation, before it can be approved.

- The living conditions for both staff and students, on campus, are remarkably very good and conducive to learning, teaching and research.
- The sporting and recreational facilities are very good.

(1.4) There remains scope of improvement in certain performance areas. The Faculty could build on the excellent aspects listed above, by considering the following recommendations, which can be readily grouped into **essential, desirable and advisable** categories:

- Resources for research are limited and relatively small. It is **essential** to find a way to increase the present level of research resource-base. One way is to set up a Research Grants Unit to actively source and attract research grants locally and overseas, as well as the endowment of professorial chairs.
- Well-equipped laboratories are pivotal to competitive research capability. It is **essential** to upgrade and modernize some of the present laboratory equipment. (The affected laboratories and some of the equipment-needs are discussed in paragraph 9.2)
- Although there is no evidence whatsoever of gender-bias discrimination, it is **essential** to start practicing and monitoring affirmative action, in order to deliberately increase female representation and participation, in all aspects of Faculty's activities and programs. International donor agencies and foundations that could assist the Faculty with funds and equipment are always interested in gender equity.
- Adequate access to computers and Internet nodes can significantly aid the quality of teaching and laboratory activities. It is **advisable** that the Faculty should double the present number of computers and Internet nodes. International Foundations can be approached with this request.
- To enhance the international standing of the Faculty, it is advantageous and **desirable** to make a deliberate effort to attract more international students from outside the present Arabian catchments area.
- It is also **desirable** to encourage and attract international scholars to

spend their “sabbatical-leave” in the Faculty. Some may be sponsored to attend International Conferences organized by the Faculty in Assiut.