Program Report

A-Basic Information

1. Program Title:
2. Program Type:
3. Department:
4. Coordinator:
5. External Evaluators:
   -
6. Year of Operation: 2014-2015

B-Statistics

1. No. of students starting the program:
2. Ratio of students attending the program this year to those of last year:
3. No. and percentage of students passing in each year/Level/Semester
   1st year: Total ….., passing ….. (…..%)
   2nd year: Total …, passing …. (….%)
   3rd year: Total …., passing …. (….%)
   4th year: Total …., passing ….. (….%)
4. Percentage of students completing the program IN FOUR YEARS : …..%
5. Grading: No. and percentage in each grade (2013-2014)

Year	Excellent	V. Good	Good	Pass	With Subj.	Fail	Absent
1st							
2nd							
3rd							
4th							

6. First destination of graduates

Percentages of the graduating cohort who have

1. Proceeded to appropriate employment:
2. Proceeded to other employment:
3. Undertaken postgraduate study:
4. Engaged in other types of activity:
5. Unknown first destination:

Academic Standards

1. Achievement of Program Intended Learning Outcomes

Year	Course Code	Course Title	(A) Knowledge and	(b) Intellectual	(c) Professional	(d) General Skills

			understanding						Skills			Skills							
			A1	A2	A3	A4	A5	A6	B1	B2	B3	C1	C2	C3	D1	D2	D3	D4	D5
First Year																			
Second Year																			
Third Year																			
Fourth Year																			

2. Achievement of Program Aims

Aim	Achievement
1- Acquire basic knowledge of aerospace engineering.	
2- Identify technological and economic problems.	
3- Perform design and analysis calculation of aircraft and rocket systems.	
4- Plan and execute research work, evaluate outcomes and draw conclusions.	
5- Communicate effectively in written, verbal and graphical forms.	
6- Have a strong foundation in mathematics and other request science.	
7- Recognize the potential of computational methods in aerospace applications.	
8- Function effectively as an individual and as a part of a team.	
9- Have a competence in English as a second language.	

3. Assessment Methods

- In most courses: … % Final exam, …% Mid-term exam, ….% quizzes and reports. For some courses, oral and/or practical exams are conducted. For graduation project: ….% Progress report (1), ….% Progress report (2), ….% Final presentation and discussion.
- Assessment methods and marks distribution follow the faculty study plan and regulations.
- Relying mainly on written exams to assess students, does not fairly evaluate the student's actual achievement during the semester.
- The oral exams, if being considered, are not given the required time to be carried out.
- In some courses, only one staff member from the examiners committee is responsible for setting and marking the mid-term as well as the final exams. The same person, may also conduct the oral exam and the semester-work, the issue which would certainly render the whole process ineffective and, sometimes, unfair. In conclusion, it is recommended to establish a system to activate the role of the examiners committee.

4. Student Achievement

Year	Preparatory Year Students	First Year Students	Second Year Students	Third Year Students	Fourth Year Students	Students graduated this Year
2013-1014						

Quality of Learning Opportunities

5. Quality of Teaching and Learning

- There are ….. lecture theaters; each can accommodate ….. students, a large hall that can accommodate ….. students, a small hall that can accommodate ….. students. In addition, there is a seminar room, a computer laboratory, an aerodynamics laboratory, a propulsion laboratory, a structural dynamics laboratory, a control laboratory, two rooms for administration and …. rooms for staff members.

- Data show and overhead facilities are available. Also, some professors are helped by junior staff members who attend lectures delivered by professors to take the role of a mentor.

- Some instructors recommend textbooks as subsidiary resources material for their course. They mostly rely on their own notes or books. Most of the textbooks suggested as references are available at the faculty library or as soft copy that can be used by students.

- When a course relies on a textbook, it is made sure by the lecturer that such book is available at the faculty library. There is provision for students to photocopy pages of the book for their own use. A student may borrow a book provided it doesn't leave library grounds. It is not allowed, however, to borrow books out of the library.

- The university has limited subscription to science direct, which is used by a small number of students and staff. The internet search engines are extensively used by the students for their reports and graduation projects.

- Department Computer Lab equipped with ….. PC machines, word-processing and printing facilities assists students in successfully conducting their reports and graduation projects.

- The laboratories are equipped with many small scale as well as pilot scale units of adequate quality. The lab session is always handled by a staff member, at least one assistant and a technician, this in order to ensure maximum benefit of the practical session, as well as safety of the students. However, the labs need to be continuously upgraded to suit the work market demand.

- Staff members provide extra tutorials and distribute extra sheets with model answers to students according to need.

- Summer training is compulsory for all students:
  During their first and second years, students are trained at faculty premises to use engineering software.
  In summers following the third and fourth years, students receive a field training of about one month, sponsored by the aviation industry sector and administrated through the department staff.

- The quality of learning opportunities may be rated as Adequate to some extent; however, they should be improved in order to suit the increasing demands of aerospace industry.

6. Effectiveness of Student Support Systems

- During their 5-year study, students receive tutorials for all studied modules, in addition to the lectures.

- Wide range of laboratories and workshops are available to develop the students' practical skills.

- Department library, faculty Library, and University Library, are accessible to students five days a week all through the academic year.

- Department Computer Lab, word-processing and printing facilities assists students in successfully conducting their reports and graduation projects.

- Regular site-visits during years 4 and 5 enhance students' industrial experience.

- Extra support is offered to students through personal communication with staff members during announced office hours.

- Staff members provide extra tutorials and distribute extra sheets with model answers to students according to need.

- Youth care is responsible for helping students to feel familiar with the new atmosphere in which they exist , as well as encourage them mingle with their colleagues and carry on as many activities as possible in order to lead a healthy and successful university life. Youth care activities may be summarized as follows:

  - Organizing a welcome celebration for the new comers.
  - Declaring all activities available for students' participation.
  - Organizing students' contribution in sports championships.
  - Organizing participation of faculty students in poetry, acting and singing competitions.

- Encouraging students to share in social university life through entertainment parties and carnivals.
- Carrying on competition among departments for choosing the ideal students.
- Providing financial aids for needy students.
- Studying the cases of needy students and offering them financial aid and recommending scholarships for them.
- Receiving students' complaints and helping them overcome any difficulties encountered.

▪ Cairo University has dormitories for female students, as well as another for male students. These dormitories are dedicated to students coming from areas outside the capital, and students coming from other countries.

7. Learning Resources

a) No. and ratio of faculty members and their assistants to students

…….Engineering Dept. Faculty members:
……. Engineering Dept. assistants:
Total number of students:
Student/Faculty ratio:
Student/(Faculty + assistant) ratio:
Note: Students are also served by faculty from other departments

b) Matching of faculty members specialization to program needs

There is a need for faculty members in the areas of structures and control.

c) Availability and adequacy of program handbook

There is a handbook available for new students of the faculty. This handbook contains the faculty mission and strategic objectives as well as the study plan and regulations for all offered programs. It is distributed to all new students when completing their registration papers through the student affairs department.
A handbook of the Aerospace Engineering Department is not available.

d) Adequacy of library facilities

There is a library serving the department. The main library is the faculty library, which contains a large number of reference books, in addition to Journals; students are only allowed to use the references in the library or photocopy parts of them. Students are allowed to borrow books from this library. Both libraries are open for both students and staff the whole week (Sunday – Thursday). A library computer system is not available and there is a great need to establish such system and to be available through the internet.

e) Adequacy of laboratories

In addition to the above mentioned learning resources and facilities, there are four laboratories affiliated to the Aerospace Engineering Department. These laboratories are equipped with some small scale as well as pilot scale units. The available equipment is meant for undergraduate teaching and projects. No laboratory is mature enough to be used for research activities. The department is in great need to upgrade labs and purchase new equipments.

In their first year of study (foundation year), students conduct practical sessions in the Faculty's General Chemistry and Physics Labs although the number of students are very large compared to labs capacity.

f) Adequacy of computer facilities

The Faculty of Engineering Central Computer Labs provides the following survives to Aerospace Engineering Department:

1- ….. PC's connected to the internet.
2- Internet connection of ….. Mbps, although it has problems sometimes.
3- Access to different engineering channels and research papers:
    - Science Direct
    - JEEE
    - ASME

4- *Software for training students on*:

    - Windows
    - Office
    - Simulation Packages (Matlab)
    - Computer Graphics and Animation AUTOCAD, 3D Max, Flash and Director
    - Microsoft Programming Environment ASP. NET

Meanwhile, there are 30 PCs available in the Aerospace Engineering Computer Lab for use by students. The ratio of the department's PCs to students is 0.1. However, almost 50% of the students use their own PCs and have got permanent access to internet and information facilities.
The PC facilities are available to students Sunday to Thursday from 8:30 AM to 3 PM.

The staff of the program has access to the internet through their computers at the department.

The university has limited subscription to science direct, which is used by a small number of students and staff. The internet search engines are extensively used by the students for their reports and graduation projects.

g) Adequacy of field/practical training resources

Summer training is compulsory for all students:
During their first and second years, students are trained at faculty premises to use engineering software.
In summers following the third and fourth years, students receive a field training of about one month, sponsored by the aviation industry sector and administrated through the department staff.

A system for assessment and evaluation of the students' achievement in the field training does not exist. No marking or grading system for the summer training is present in the study

h) Adequacy of any other program needs

Not exists

8. Quality Management

a) Availability of regular evaluation and revision system for the program

- A new revised and developed version of the curricula is issued each 5 academic years.
- The staff when writing the curricula of 2003 has put into consideration all the weak points that have led to negative impacts on the graduates' attainment level.
- The evaluation of the graduation project is made by a committee that includes the main instructors, faculty staff of the field and external examiners from other universities.

b) Effectiveness of the system

A system for measuring the effectiveness of the system does not actually exist. However oral feedback from industry is taken into account.

c) Effectiveness of faculty and university laws and regulations for progression and completion

- University laws and regulations concerning the students' achievement and results of exams do not differentiate between the nature of study and activities in every faculty or academic program. The so called "El Ra'faa" rules are put in a way that the students' grades never reflect the actual student level.

- Also, these regulations give the student the right to repeat the final 2 semesters for infinite no. of years and they are kept always responsible for the curricula they had studied for the first time. This actually creates too many problems and overload on staff as well as administration in addition to the negative impacts on the academic level of these graduates.

d) *Effectiveness of program external evaluation system*

i. External evaluators

External evaluation is not available among the faculty regulations.

ii. Students

Student evaluation forms were initiated on the academic year 2004-2005. Questionnaires were done for samples of students in all courses. But the students are unable to fill-in the questionnaires appropriately or decide above effectiveness due lack of awareness and loss of interest as well as loss in confidence that any corrective action may be undertaken.

iii. Other stakeholders

This system does not exist.

e) Faculty response to student and external evaluations

It is hoped that a mechanism would be initiated to activate the process and respond positively to the students' evaluation. So far, no corrective actions have been carried out in response to the students' evaluation.

9. Proposals for program development

a) Program structure (units/credit-hours)

Application of credit-hours system needs well trained administration, much more accommodation spaces, and full time presence of teaching staff. It is too difficult to implement under current conditions.

b) Courses, deletions and additional modifications

Updating courses is ongoing process.

c) Staff development requirements

The staff development project (FLDP) implemented in Cairo University in 2003 is the only training program available for staff as well as assisting staff development. Also, it is required to increase staff salaries and research funds.

10. Progress of Previous Year's Action Plan

Action Identified	Person Responsible	Progress of action, state if completed and any reasons for non-completion
Books for department library	N/A	Partially achieved through donations from staff.
Funds for student projects	N/A	Limited contribution from faculty and main part from students.
Upgrading computing facilities	N/A	Very limited, need major upgrade
Visual aids	N/A	Two computer data shows purchased

11. Action Plan

Action required	Person Responsible	Completion date
Training administration staff	Faculty administration	2010
Hiring qualified technicians or training the existing technicians.	Faculty Dean	2010
Upgrading Labs and purchasing large multi-processor computers for high-speed computations.	Faculty Dean	2012
Allocating more research funds for students and faculty projects.	Faculty Dean	2010
Hiring teaching and research assistants	Vice Dean for Research	2010
Installing library computer system to be used through the internet.	Vice Dean for Research	2010
Subscribing to electronic Journals related to aerospace, especially **AIAA** journals.	Vice Dean for Research	2010
Purchasing visual aids and smart screen for teaching	Faculty Dean	2010
Upgrading overall maintenance system for the buildings; upgrading furniture and installing air conditioner units.	Faculty Dean	2010