# Reviewed Self-Study Report
# Architectural Engineering Program
# Architectural Engineering Department
# University of Baghdad


**This report is issued by Architectural Department / University of Baghdad / College of Engineering / Unit of Quality Assurance & Performance Assessment (UQAPA)**
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# PREFACE

The present report is the second self-assessment report written for the Department of AR Architectural Engineering at the College of Engineering - University of Baghdad. It represents a modification to the first report written at September / 2011. The two reports represent an important step towards achieving Quality Assurance in accordance with international standards, which is a strategic and important decision for the scientific and educational process of the department. As mentioned in the first report, the decision was adopted by the "General Board" of the department (which includes in its membership all members of the faculty in the department) at its meeting on June 30, 2011. The reports coincide with a wide and comprehensive campaign carried out by the College of Engineering and University of Baghdad in this area and under a central guidance and support from the Iraqi Ministry of Higher Education and Scientific Research (MOHESR).

In writing the present report, we have relied mainly on the comments and recommendations made by the reviewers in *Arbil Workshop*. Besides, we also rely on template of a self-assessment report issued by the UNESCO Iraq Office (Amman), in addition to a number of similar reports of a number of Arab and international universities that have already presented such a report. The report involves up-dating to what was written in the first report. It includes in its first and second parts a definitive introduction to the department and its history, scientific disciplines and awarded degrees, the system of study and curriculum, organizational structure, the general features of the policy of the department in the various fields and aspects. After that, the report reviews the required criteria for the self-assessment and the related appendices according to specifications of SAR. It's also contains a SWOT analysis for the (Strengths, Weaknesses, Opportunities, and Threats) of the department. SWOT analyses is a very important tool for planning and developing strategies and policies for the office in question, and we have tried in our writing of this paragraph to be very precise in our diagnosis of the strengths and weaknesses, as well as opportunities and threats facing the scientific and educational process of the department. In addition to that, the report includes the important actions made and / or proposed to be made by the department according to the SWOT analysis.

We hope that we have been successful in our writing of this report, and that we achieve the minimum requirements of SAR. We hope that the report receives the attention of the experts and reviewers and to enrich it with their valuable observations to help us in guiding the department in the right direction towards ensuring quality and reliability of the educational system of **AR** program according to international specifications and standards.

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# BACKGROUND INFORMATION

## A. Contact Information

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## B. Program History

The Department of Architecture was established in 1959 in the domains of the College of Engineering in Baghdad University to get B.Sc. degree in the Architectural Sciences.

More than two thousands architects have graduated since the establishment of the department until 2010-2011. Many of them could fulfill creative architectural achievements in different state sectors. Furthermore, a great number of them have become distinguished in the Arab and international architectural fields.

The numbers of acceptance for the primary study range from 50-60 students per year as a minimum number in addition to the acceptance of foreign and Arab students, who constitute 10% of total number of the accepted students. The period of undergraduate studies is 5 academic years, each consists two semesters.

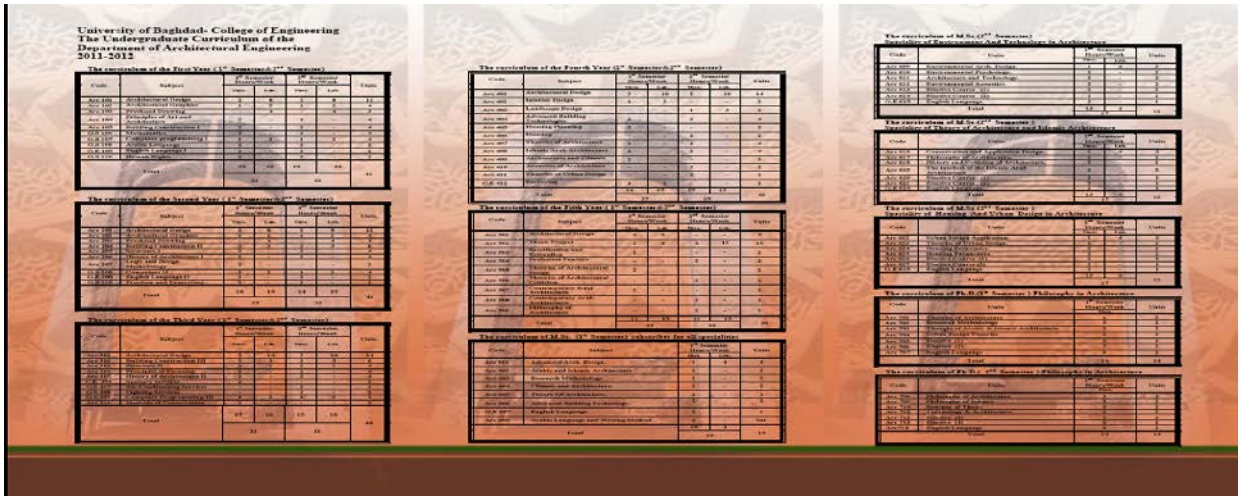
The post-graduate studies were introduced to get the degree M. Sc. in the Architecture for two academic years at the end of the seventies of the past century. The number of acceptance of the Master stage has increased reaching more than 12 students in 2002-2003 distributed into three specializations as the following:

- The environment and technology of architecture.
- Theory of architecture and Islamic architecture.
- Housing and urban design.

Similarly, the Doctoral study has been introduced to get Ph. D. in Architecture since the eighties of the last century and the annual number of acceptance has increased to average 4 students.

The Ph.D. curriculum period is three academic years as minimum and it includes a group of specializations in the philosophy, history, sciences, theories of architecture and Islamic architecture, beside technology sciences, cities development, urban development, and housing issues.

## C. Brochure of Architectural Department

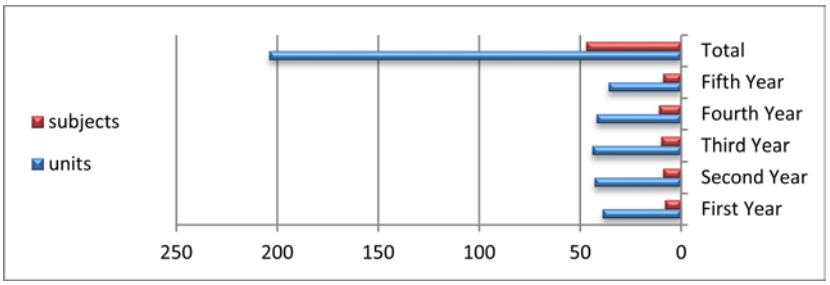




## D. Options: Scientific Specialties and the Awarded Degrees

The department offers Architectural programs leading to the degree of Bachelor of Science (B.Sc.), Master of Science (M.Sc.) and Degree of Philosophy (Ph.D.) in Architecture. The B.Sc. degree includes several subjects with general specialties. The M.Sc. and Ph.D.

degrees cover three areas of research; **environment and technology of architecture**, **theory of architecture and Islamic architecture**, and **housing and urban design.**

The annual system of study is followed in the department for the (B.Sc.) undergraduate study. The study period is **(5)** years with 204 units distributed over the five years of study. Figures (0-1 & 0-2) show the number of units, subjects and the weekly hours of study for all stages.




| | First Year | Second Year | Third Year | Fourth Year | Fifth Year | Total |
|---|---|---|---|---|---|---|
| **units** | 39 | 43 | 44 | 42 | 36 | 204 |
| **subjects** | 8 | 9 | 10 | 11 | 9 | 47 |

**Figure (0-1): Number of Subjects and Units for all Department Stages**

| | First Year | Second Year | Third Year | Fourth Year | Fifth Year |
|---|---|---|---|---|---|
| **Theoretical** | **16** | **16** | **15** | **14** | **11** |
| **Applied** | **16** | **19** | **16** | **15** | **15** |
| **TOTAL** | **32** | **35** | **31** | **29** | **26** |

**Figure (0-2): Number of Weekly Hours for all Department Stages**

For the postgraduate study, the semester's system of study is followed in the department. The minimum period of study is 2 years for the M.Sc. and 3 years for the Ph.D. degrees. The first year for both studies is for courses work with two semesters. The second year for M.Sc. is for thesis work. The second and third years for Ph.D. are for dissertation work. The Ph.D. student had to pass a comprehensive exam before he can register on a dissertation.

## E. Organization Structure

The scientific, technical and administrative structure of the AR Department at the College of Engineering – University of Baghdad includes a set of integrated elements. Each one of these elements of the structure has authorities, duties and responsibilities which are specified accurately so that the department can works well and achieve the required goals through the integrity of work of these elements. Figure (0-5) shows the organizing structure of the department.

Each person in this structure has his duties and responsibilities that are specifically defined so that the department may achieve its objectives and perform its work ideally as a result of the integration between the personal. Appendix A presents the most important activities of the department during the academic year 2011-2012, which are the results of integration between the elements of this structure.

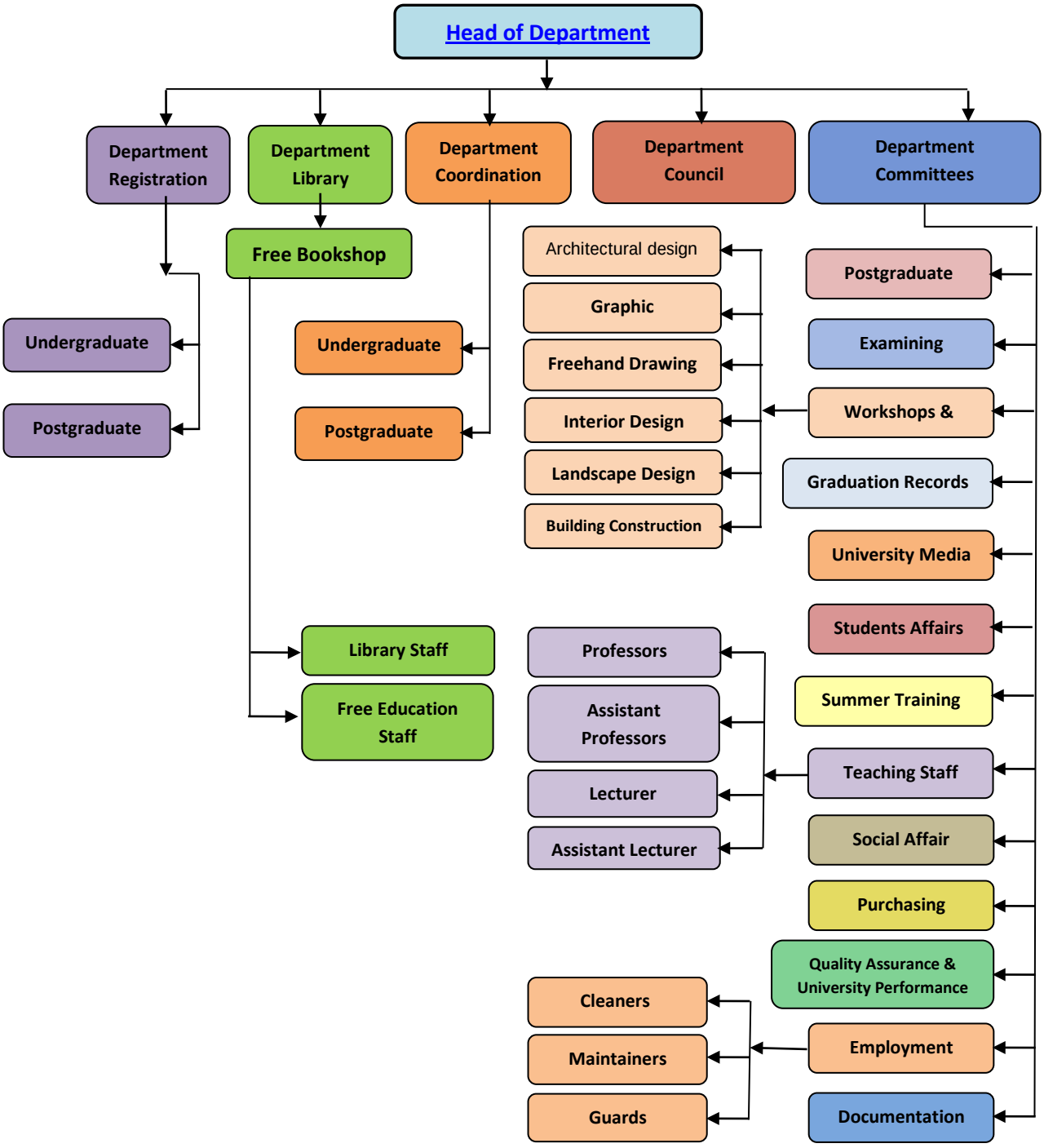



**Figure (0-3): Organization Structure of Architectural Department**

## F. Program Delivery Modes

The program is offered to full time students on campus primarily during the day. A few of the labs for required classes may last as late as 2:45 p.m. Classes include traditional lectures and laboratories as appropriate. A co-op program is available, but no course credit is given for co-op experience. This enables students who are on co-op or internship to take this course while being away from Baghdad.

## G. Deficiencies, Weaknesses Documented in the First Report from the Previous Evaluation(s) and the Actions taken to Address them

This section includes the weaknesses and threats documented in the first SAR written at Sep. / 2011, and the important actions made and / or proposed to be made by the department to treat the weaknesses and risks associated with the educational process.

| Students | | |
|---|---|---|
| **Weaknesses W** | **Threats T** | **Actions Made & Proposed to be Made** |
| - Deficiencies in certain outcomes in graduating students:<br>a. Communication skills.<br>b. Design / real world applications.<br>c. Contemporary technical and economic issues.<br>d. Impact of engineering solutions in a global and societal context.<br><br>- Quality and quantity of current students:<br>a. Culture of being "spoon-fed".<br>b. Inadequate language preparation.<br>c. Student be admitted in the section is not chosen either because of the rate either because of an error in filling out a form choices.<br>d. Inadequate training in critical or analytical thinking.<br>- Inappropriate mode of teaching.<br>- Weak contact and alumni relations.<br>- There is no division or unit sponsoring Graduate Affairs and communicate with them so that the process of issuing documents done by graduates and Registration | - Competition (local, regional and Global):<br>a. Emerging local and regional private colleges.<br>b. Accessibility of international schools via distance education.<br>c. Fast pace of developments in technology (e.g. IT, emerging new fields).<br>d. Start the establishment of private universities in neighboring countries and the opening of branches in Iraq.<br>e. Weaknesses in general level of scientific awareness of society.<br><br>- Declining interest in engineering:<br>a. Lack of sufficient number of quality students with strong interest in engineering.<br>b. Inadequate public awareness for engineering profession and job opportunities.-<br>- Quality of incoming students (Language, analytical thinking, | 1. A proposal will be submitted to The MOHESR about the acceptance rules.<br>2. The extracurricular of the students was increased during the academic year 2011-2012.<br>3. To establish a recruitment center.<br>4. Developing summer training.<br>5. Promote a strong sense of community & collegiality among the students, faculty, staff & alumni.<br>6. Improve teaching &learning through continuous assessment.<br>7. Continue to develop and maintain an adequate infrastructure.<br>8. Development of comprehensive strategy for teaching the English language.<br>9. It was decided to hold a meeting for groups of alumni.<br>10. This can be achieved through the development of a clear strategy for teaching and learning.<br>11. As is obvious that such |

| | | |
|---|---|---|
| Unit in the Department.<br>- There is no electronic link within a site Department Alumni so they can communicate with them and take advantage of the opinions (Feedback) in the improvement and development of teaching and learning processes and the extent to which the Survey educational objectives of the Department.<br>- Lack of regular meetings for students with the slide of advanced engineers in the field work which weakens a link student field work as well as weaken the ambition to be one day a leader in the field of work.<br>- Do not activate the relations between our department and corresponding colleges regionally and globally, where the existence of such agreements so let's awarded fellowships by the two parties to exchange experiences and increase the efficiency of students.<br>- There is no way to assess students' only exams, in addition to the absence of mechanisms to follow up on their progress or delay in the scientific process. | motivation).<br>- Increased competition from private colleges and universities and Arab World in subspecialty programs.<br>- The lack of graduates access to jobs, whether governmental or private sector because of the lack of knowledge of these institutions with the skills possessed by graduates. | meetings significant benefits can be obtained from these engineers to develop and improve programs Department in addition to the possibility of marketing graduates through the establishment of relations with the working market |

| **Program Educational Objectives** | | |
|---|---|---|
| **Weaknesses W** | **Threats T** | **Actions Made & Proposed to be Made** |
| - There are no message and vision at the educational program level.<br>- There are no educational goals at the level of the educational program.<br>- No measurement criterion exists for achievement of the goals. | | 1. A clear mission and vision statements has been written.<br>2. Formulation of objectives for each educational program.<br>3. A statement of consistency between the objectives of educational program and scientific mission of department and college had been developed.<br>4. A clear strategy for measurement criterion for |

| | | |
|---|---|---|
| | | goals achievement has to be drawn and followed. |

| Learning Outcomes | | |
|---|---|---|
| **Weaknesses W** | **Threats T** | **Actions Made & Proposed to be Made** |
| - Lack of adequate security situation to visit the audit committees of organizations granted accreditation.<br>- The lack of methods for measuring and evaluating the learning outcomes.<br>- The style of the given curriculum tends to make the student recipients and not learner.<br>- The lack of feedback. | - Lack of adequate security situation to visit the audit committees of organizations granted accreditation.<br>- Lack of awareness required in the surrounding environment education needed for development. | 1. Starting to write each subject curriculum.<br>2. Proposing a measurement and evaluation strategy of learning outcomes achieved in each subject.<br>3. Development of the graduation project to resemble the design stage.<br>4. Establishing an advisory committee of field working.<br>5. Educate faculty members about learning outcomes and educational objectives. |

| Curriculum | | |
|---|---|---|
| **Weaknesses W** | **Threats T** | **Actions Made & Proposed to be Made** |
| - Central control of curriculum development by the sectoral committee in the ministry, and the possibility of changes in the curriculum only in a limited rate.<br>- Lack of attention to give courses in English, especially in the scientific discussion within the classroom.<br>- The style of the given curriculum tends to make the student recipients and not learner.<br>- Lack of allocation enough credit hours to acquire good skills in computer programs that needed for the mechanical engineer.<br>- Lack concentration of curriculum to teach students to work in team.<br>- The absence of a written plan for review update curricula every four years, and the absence of mechanisms to take the views of those involved in the labor market program Department.<br>- Methods for measuring learning outcomes and skills acquired by the students are not clear and need to develop new mechanisms to adapt with the requirements of the | - Quality of incoming students (language, analytical thinking, motivation). | 1. Designed to meet both local needs and international standards.<br>2. Strong engineering science components.<br>3. Availability of a good variety of general education subjects.<br>4. A strong professional component. |

| | | |
|---|---|---|
| (ABET). | | |

## Academic Buildings and Facilities

| Weaknesses W | Threats T | Actions Made & Proposed to be Made |
|---|---|---|
| - Complicated decision-making and restrictive process at the College level for purchasing and hiring procedures.<br>- Insufficient funding for maintaining and upgrading facilities.<br>- Centrality of work which limits the possibility of development.<br>- Exploitation of buildings from other colleges<br>- The furnishing of classrooms is modest.<br>- Need labs section to a large number of devices so they can be considered as an integrated part of the laboratories | - Lack of adequate security.<br>- Lack of awareness required in the surrounding environment education needing for development<br>- Intense competition from new and private colleges of higher financial support compared to the old College of Engineering, which caused the low level of infrastructure compared to the modern college | 1. Rehabilitations of existing buildings.<br>2. Furnishing rooms<br>3. Equipping laboratories with new devices and equipment<br>4. Processing computers<br>5. Processing system Internet |

## Faculty

| Weaknesses W | Threats T | Actions Made & Proposed to be Made |
|---|---|---|
| Increasing proportion of new faculty with limited teaching experience due to inadequate training programs for development.<br>- Large proportion of faculty with limited industrial and research experience.<br>- Poor rehabilitation programs<br>- Poor relationship with international research centers and academic institutions.<br>- Insufficient funding for faculty development.<br>- The Department is still in need of a number of lecturers from the campaign of scientific titles (professor and assistant professor) for a number of subspecialties.<br>- Despite the presence of the few opportunities for friction institutions scientific and academic world, but most of the teaching staff of the department is not familiar with the modern methods | - Competition (local, regional and global):<br>a. Emerging local and regional private colleges.<br>b. Private universities in neighboring countries which have branches in Iraq.<br>c. Weaknesses in general level of scientific awareness of society.<br>- Declining interest in engineering.<br>- Reduced financial support for professor as a scientific researcher, leading to a reduction in the level of research, where publishing in international scientific journals is the basis for enhancing the reputation of the college and then the university to be in level of international universities | 1. Submit proposals to the ministry of higher education about faculty development.<br>2. Activation of the Continuous education center.<br>3. Activate relations with field work.<br>4. Honoring, caring and retain outstanding faculty and staff.<br>5. Improve teaching and learning through continuous assessment.<br>6. Promote research &consultation that address the immediate and long-term needs of the society.<br>7. Create a strong relationship with society in particular with industry to cooperate in the advancement of the country's economy.<br>8. Continue to develop and maintain an adequate infrastructure.<br>9. Increasing the training programs |

| | | |
|---|---|---|
| used in teaching and learning processes, although the existence of a training program staffs teaching outside of Iraq, which is sponsored by the Ministry does not cover a large number of lecturers in addition to limited time program, which must be no more than a month according to the Ministry's instructions and complex procedures while getting this opportunity. | | for faculty members.<br>10. Enrollment of 13 faculty members in a Ph.D. programs inside Iraq.<br>11. Enrollment of 2 faculty members in a Ph.D. programs outside Iraq.<br>12.5 faculty members will be enrolled in a Ph.D. program outside Iraq. |

## Institutional Support

| Weaknesses W | Threats T | Actions Made & Proposed to be Made |
|---|---|---|
| - Complicated decision making process at the College level.<br>a. Complicated and restrictive purchasing procedures.<br>b. Complicated & restrictive hiring procedures.<br>- Insufficient funding for; Research; Teaching improvement; hiring adequate human resources.<br>- Maintaining and upgrading facilities. | - Lack of self-care and unfaith, from some officials on the decision-making, especially with regard to factors associated with the development of the university, college, and the department. | 1. Proposals to the MOHESR and the university to increase funding.<br>2. Proposing Self-financing sources |

## Scientific Research

| Weaknesses W | Threats T | Actions Made & Proposed to be Made |
|---|---|---|
| ☐The lack of a clear plan for scientific research reflects the requirements of the labor market.<br>☐ The lack of appropriate financial allocations by the Ministry to support the achievement of rigorous scientific research.<br>☐ The weakness of laboratory infrastructure and poor allocations earmarked for the purchase of modern laboratory equipment.<br>☐Lack of joint seminars between the | - Because there is no strategy for scientific research, many problems remain in the labor market and new problems will appear unresolved due to lack of or poor coordination between academic institutions and the labor market.<br>- Conduct research not directed correctly so that the go the efforts spent on such research so vain while it can be directed correctly in order to be fruitful research and | Formation of joint committees between the research enterprise and the beneficiaries of research to develop plans for the implementation of research shall set solutions to problems engineering, and this is what we touch and see applied in practice through several research institutions worldwide to attract researchers and support their studies to benefit from their research they conduct according to a plan set by |

| | | |
|---|---|---|
| department and public and private institutions which will reflect negatively on research trends.<br>☐The small number of joint research with professors from foreign universities.<br>☐ Spread the misconception that individual is the best research from joint research, which indicates that faculty performance evaluation forms prepared by the ministry for the academic year 2010/2011, which gives weight to the individual research higher than the weight given to the Joint Research | applicable to solve realistic problems | such institutions |

# CRITERION 1: STUDENTS

## A. Student Admissions

An applicant for admission to an undergraduate program of (AR) at the Architectural Department/University of Baghdad must satisfy the following minimum requirements:

1. The student should have an Iraqi secondary school certificate, or its equivalent, and majored in natural or technological sciences. The students must obtain a high rate qualifies for admission to engineering colleges.
2. Acceptance is centrally controlled by the Ministry of Higher Education and Scientific Research.
3. Distribution of students to several engineering departments of the college of engineering, including the department of (AR), is made according to the capacity plan of the departments and the rating average of the applicants and their will. The capacity plan of the Department of in the last three years was 50 students. The number of students accepted is limited to the number of seats available as decided by the College Council based on the capacity of resources at the college.
4. Also included a plan to accept the top students from Technical Institutes Foundation, and the outstanding employees from state institutions and ministries.
5. The applicant must submit the required documents within a specified period.
6. An applicant who has graduated from a secondary school system outside Iraq must have completed twelve years of combined primary and secondary school studies from a recognized school. He is also required to provide an equivalency certificate from the Iraqi Ministry of Education.

Admission to (AR) is highly competitive. As explained above, applicants are granted admission in accordance with an overall evaluation on the basis of their rating record, but only to the extent permitted by the maximum number of new admissions established for that academic year.

| | Low rates of acceptance | Average rates of acceptance | Plan to accept students | number of students actually enrolled | number of students moving from the department in the year of admission | The number of students graduating bachelor 's degree |
|---|---|---|---|---|---|---|
| ***2010 - 2011*** | **91%** | **93.14%** | **50** | **58** | **13** | **37** |
| ***2009 - 2010*** | **89.71%** | **90.92%** | **50** | **57** | **2** | **55** |
| ***2008 - 2009*** | **90.21%** | **94.67%** | **50** | **85** | **6** | **42** |
| ***2007 - 2008*** | **91.42%** | **93.6%** | **50** | **76** | **4** | **60** |
| ***2006 - 2007*** | **93.85%** | **94.07%** | **50** | **57** | **9** | **35** |

Our data from the last five years shows that approximately (20 %) of our undergraduate students enrolled from institutes. Approximately (4 %) transferred from other major engineering departments. Approximately, (35 %) of the enrolled students were transferred from the department.

## B. Evaluating Student Performance

Student performance in each subject is evaluated by the faculty member, culminating with assignment of a grade for that subject. The number and types of graded assignments vary according to what is most appropriate for the subject in question. These assignments are generally a combination of examinations, quizzes, homework, and/or laboratory reports. Projects and/or oral presentations are required for some subjects. Certain assignments are graded by a group of the faculty or instructors. For example, at the end of the senior year, the student presents a final written graduation project report. The student also gives an oral presentation of his / her project work, and answer questions on it.

## B.1 Educational Programs

The department follows the university wide standard definition of credit hour. (AR) program has the annual system of study which is followed for all subjects, that is; the number of hours which is assigned for each subject is the same for both the 1st and 2nd semesters without any difference between them. Excluding the final examination week, one semester credit hour represents one class hour per week with a stipulated duration of 50 minutes. Based on the definition of a 30-week per year, a typical three-credit hour class consists of 90 hours of contact hours.

## B.2 Participants and Graduation Trends

Table 1.2 and Figure (1.2) shows participants and the percentage of success for each class over the past five years to (AR) baccalaureate programs.

| Study years | First Stage | | Second Stage | | Third Stage | | Fourth Stage | | Fifth Stage | |
|---|---|---|---|---|---|---|---|---|---|---|
| | No. of students | % Success rate | No. of students | % Success rate | No. of students | % Success rate | No. of students | % Success rate | No. of students | % Success rate |
| ٢٠١١ | ٤٥ | % ٨٠ | ٤٨ | % ٧٥ | ٦٥ | % ٨٣ | ٧٠ | % ٦٠ | ٣٧ | %١٠٠ |
| ٢٠١٠ | ٥٧ | % ١٠٠ | ٦٦ | % ٩٨ | ٦٩ | %٨٨,٤ | ٣٩ | % ٩٤ | ٥٥ | %١٠٠ |
| ٢٠٠٩ | ٧٣ | %٨٥,٥ | ٧٩ | %٨٥,٥ | ٤٠ | %٩٢,٣ | ٥٤ | %٩٨,١ | ٤٢ | %١٠٠ |
| ٢٠٠٨ | ٧٦ | %١٠٠ | ٤١ | %١٠٠ | ٥٤ | %٩٨ | ٤٠ | %١٠٠ | ٦٠ | %٩٨ |
| ٢٠٠٧ | ٤٨ | %٧٠ | ٥٨ | %٧٣ | ٤٠ | %٨٧ | ٦٠ | %٨٧ | ٣٦ | %١٠٠ |

**Note**:

1. Rate of number of students in every classroom is 30 students per class.
2. Rate of students' presence in lectures is 80 %.

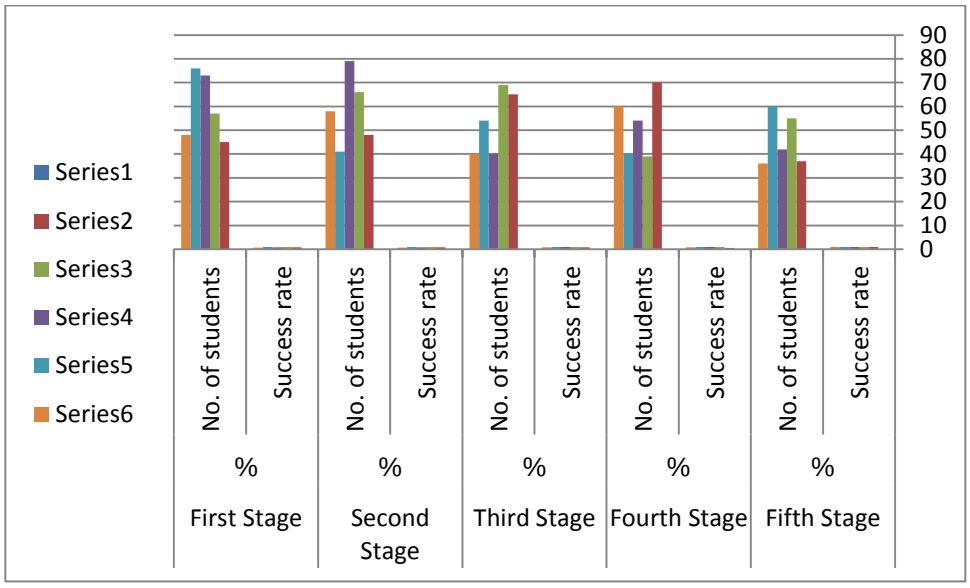



**Figure (1.2): Participants and Success Trends**

## *B.3 Monitor the Progress of Students*

A student's progress is monitored by faculty advisors and the Registration Committee, they turn in final grades at the end of the academic year to the Examining Committee, and each student's transcript is checked to ensure that student remains in good academic standing. If the cumulative average is below 50%, the student is suspended. Grades are also forwarded to advisors, to assist them in monitoring student progress.

To enable the student to follow the curriculum and study vocabulary and assimilated well, he / she must abide by the attendance on a regular basis and not to repeat his absence to attend the lessons so as not to exceed the percentage specified (15% of the total number of hours during the year).

Even if that percentage of absences for legal reasons (e.g. sick leave), to follow up the students attendance correctly, instructors should distinguished and recording the absences on a regular basis in every lecture and deliver these absences at the end of the week to the registration committee, and then issue a preliminary and final warnings for bypassing or to issue orders of suspension for those who are over the rate (15%).

Table 1.3 shows the percentage of the Students Attendance for five stages (classes) for

(AR) baccalaureate programs in the academic year (2011-2012).

Table (1.3): Students Attendance Rates

| No. of Stage | Situation Of Students **(271 students) in academic year 2011 - 2012** | | | | |
|---|---|---|---|---|---|
| | **Total Number** | **Postponed** | **Breakup** | **Transfer** | **Attendance Rates %** |
| **First Stage** | 47 | - | - | - | 100 % |
| **Second Stage** | 41 | 2 | - | - | 100 % |
| **Third Stage** | 48 | - | - | - | 100 % |
| **Forth Stage** | 66 | 2 | - | - | 100 % |
| **Fifth Stage** | 69 | - | - | - | 100 % |

## C. Advising of Students

Full-time faculty members in the Department of (AR) advise students who have selected architectural engineering as their choice. This includes both pre-engineering students who have declared architectural engineering as their major choice and those who are accepted in the (AR) Program. All new students are assigned to the program's undergraduate coordinator upon entering the program. During the middle of the first semester, they are assigned to various faculty members within the program. The assignment is random and based on balancing the workload among faculty members. Thus, a new student coming to the department will be assigned to the faculty members with the smallest number of advisers. This assignment is continued throughout the student's academic program to provide continuity and consistent advising for the student.

Table 1.4 shows the percentage of faculty members and their qualifications to the (**256**) number of students during the academic year (2010-2011).

Table 1.4 shows the percentage of faculty members to the number of students in the academic year (2010-2011).

| | Ph.D | M.Sc | Professor | Assistant Professor | Lecturer | Assistant Lecturer |
|---|---|---|---|---|---|---|
| No. | **11** | **28** | **5** | **2** | **14** | **18** |
| Ratio to Students (256) | **4 %** | **10.9 %** | **1.9 %** | **0.07 %** | **5.4 %** | **7 %** |

## C.1 Opinion of Students

During the period of the academic year, the student is required to meet with a faculty members and to review student progress.

Input from all five stages students, data were collected during the academic year 2010-2011. The data show situation on the part of students regarding career, subjects, and professional advising by the program faculty. This form also provides feedback to the department about advising quality, an issue which merits close review. The advising process

and survey will be modified as necessary and adapted for regular use. See Criteria 4 for Assessment.

## D. Transfer Students and Transfer Subjects

Admission of transfer students is done centrally by the college through a committee chaired by the Assistant Dean for Student Affairs and worked according to laws and legislations made by the Ministry of Higher Education and Scientific Research MOHESR. The transfer students are subjected to a scientific cut-off for the subjects taken at their institutions or universities. The Scientific Committee of the Department converts the subjects from the other institutions to actual AR subject numbers and posts them to the student's AR transcript.

If there are any questions regarding the suitability of a substitution or transfer subject, the transfer committee contacts the department. The department reviews the syllabus, subject description and other material to determine whether the subject is equivalent to one in our curriculum. The answer is sent to the Office of the Assistant Dean for Student Affairs for approval and placement in the student's permanent file.

## E. Graduation Requirements

The student performance is determined through the process of assignment of academic status. A student's academic status will be determined at the end of academic year and will appear on the transcript that shows student's achievements throughout his / her undergraduate study. To become eligible for a Bachelor of Science degree in an engineering program, a student must fulfill the academic status which includes the following requirements:

1. Passing the Five academic years successfully within the allowed study period (9 years).
2. Passing the summer training successfully.

The College Records Office, Graduation Records and Examination Committees of the department maintain a complete file on the academic program and progress of each student. This file contains all academic records and related correspondence and documents for the student, including the following:

- Transcript, updated at the completion of the senior year with **47 Subjects and 204 Units.**
- Computer-generated degree audit sheet tailored to the architectural engineering curriculum, which shows subjects completed in required categories and separate sections detailing math and science, humanities, engineering major, and other credits.
- Copies of all correspondence of an academic nature with the student, including letters of admission to the College of Engineering.
- Any exceptions to the rules filed by the student and any action taken on those exceptions.
- Any comments or instructions included by the student's faculty advisor, department chair, Engineering Records Office, or other pertinent source.
- Any supplementary information used in transcript evaluations of transfer credit.

Staff of the Department maintains all files and other pertinent records for the academic program. They also provide assistance in reviewing files to ensure that students are following their program and meeting any conditions of their enrollment, such as reduced hours for students on probation.

## E.1 Degree Check

The department head meets with some graduating students to evaluate his / her academic record during the study period. "Degree Requirements Check sheet" worksheet (Figure 1.1) is used by the department to ensure that all graduation requirements have been met or will be met by the expected graduation date and Table 1.6 shows the Total Credits Required for Graduation. This evaluation also ensures that the AR program criteria are fulfilled.

Table (1.6): Total Credits Required for Graduation

| Stage | No. of Subjects | No. of Units | No. of Hours | | | |
|---|---|---|---|---|---|---|
| | | | Total | Theoretical | Applied | Experiment |
| **First Stage** | **10** | **47** | **32** | **16** | **16** | **-** |
| **Second Stage** | **10** | **47** | **35** | **16** | **19** | **-** |
| **Third Stage** | **10** | **44** | **31** | **15** | **16** | **-** |
| **Forth Stage** | **12** | **42** | **29** | **14** | **15** | **-** |
| **Fifth Stage** | **9** | **36** | **26** | **11** | **15** | **-** |
| **TOTAL** | **51** | **204** | **153** | **72** | **81** | **-** |

# CRITERION 2: PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

## A. Vision and Mission

### A.1 Vision

The Department of (AR) endeavors to be one of the leading architectural departments in Iraq and in the region, so (AR) aims to:

1. Develop the foundations for Iraqi architecture school faces the need for architectural inspiration from the architectural heritage in the Arab world in general and especially Iraq, within the concept of a sophisticated and contemporary with historical roots and consolidated to serve the nation.
2. The objectives of the new Iraq, mainly to understand the mindset of the School of Architecture Iraqi desired, which extends its roots to the concept of history is linked on the nation through the ages including requires understanding the historical data, national, comprehensively, and that the civilization of the nation to create a building innovative and contemporary discourse intellectual modern and renewed.
3. Enhance understanding of local importance in the architectural parameters covering the environment and privacy place in the overall planning of the city and the urban fabric and urban design and construction in local materials and techniques and its relationship to human scale in building one and rallies.
4. Keep pace with advanced technologies in the educational curricula and courses, especially in the field of computer and recent applications in the areas of advanced drawing and show computer-aided architectural and development of students' skills in this area .

### A.2 Mission

Establish a base of scientific cadres where there is creativity and capabilities of the mind transcends the container where the objectives of the new Iraq, so that graduates are fully prepared to implement the specialist role required of him for its effective role in building the country and nation through:

1. Promotion concepts, including moral and national heritage of the nation and is linked to privacy and intellectual process and enhance this tradition in the field of practice.
2. The ability to promote the spirit of steadfastness and honors reconstruction and innovation, and develop the role of competence through research and scientific studies and field sober and ready to complete graduate studies to enhance the information base and national affiliation of spiritual high.
3. The ability to accommodate international developments in architecture and benefit from the promotion of the architectural values of Iraq.

## B. Program Educational Objectives (PEOs)

Provide a scientific base of specialists in the science of architecture and capabilities in creativity and mental Highness the container of the objectives of the new Iraq, socially, culturally and architecturally. Where is placed a message promoting ethical and concepts associated with the national and the heritage of the nation and the privacy of intellectual, scientific, and promote this heritage in the right practice. In addition, develop the ability to absorb the international developments in architecture and benefit from the promotion of architectural values.

These PEOs are developed according to the mission of the department of significant changes in the environment during the follow-up of all the recent developments in the field of control of environmental, sustainability, and transferred to the application materials contained in the broad information base in the prescribed curriculum and all academic levels (Bachelor, Master and PhD).

**The PEO's of AR are:**

***- Have the creative expertise necessary for the broad practice of architectural. This includes analytical, computational and experimental expertise and the ability to integrate and synthesize their expertise to solve complex problems.***

***- Be able to effectively communicate creative ideas through oral and written media and to function effectively as members and/or leaders of diverse teams.***

***- View technical, ethical and functional problems from a systems perspective with attention to human, business, equipment, materials, energy and information aspects and with appreciation of global and societal contexts.***

***- Appreciate the changing world and its effect on the practice of engineering with concern for ethics, currency of expertise and contemporary issues.***

These PEOs are interacting with several axes with one another, namely:

**Society** / Applied by dealing direct and through the media of radio and television and newspapers.

**- Faculty** / posts through direct analysis and evaluation.

**- The administrative structure** / through direct cooperation in the process of implementation of the Millennium.

**- Students** / active participation in the discussion of academic and educational productions.

**- Other universities** / joint meetings for the renewal of curricula and study plan strategies (regular meetings of heads of departments and stakeholders).

## C. Consistence of the Program Educational Objectives with the Mission of the Institution

The (AR) Department PEOs are aligned well, closely linked to, and consistent with the department's mission. PEO 1 provides the first step towards a career of achievement and service. The needed background of knowledge and skills are acquired to achieve PEO 1. Students acquire quality education through several avenues, including knowledge, skills and values as reflected in PEO 1.

The professional and ethical issues are also preserved in PEO 1. PEOs 2, 3, 4 and 6 ensure the qualities for self-development and professional growth and improvement of the faculty and administrative and technical staff.

The Department PEOs are closely linked to, and consistent with, the University of Baghdad and College of Engineering missions. The University and College missions are directly served by the first, fifth and seventh (AR) Department PEOs.

## D. Program Constituencies

The program constituents are those who must be satisfied with the performance of the (AR) program which are:

**a. Faculty:** Faculty members are involved on regular basis in the assessment processes. The faculty members are a congenial group who work as a team to improve AR education at Baghdad University. They are committed to the undergraduate program and producing graduates who will be active citizens and make a significant impact in the broad field of (AR). Many of the faculty members are currently engaged in their particular field of expertise outside of the University setting as consultants, and all faculty members are engaged with research.

**b. Students**: Current students are interested in whether the (AR) program adequately prepares them for future employment. The students in our program are motivated to become successful engineers.

**c. Alumni:** This group consists of recent graduates who have been employed for at most two years and graduates who have been employed for 3 to 5 years. Graduates with work experience of 3 to 5 years constitute a key part of the assessment process. They should have the incentives to assess the quality of PEOs based on their career achievements.

**d. Employers:** (government, working field and universities): Employers' satisfaction with our students' education provides measure of the program success. Their satisfaction translates to employment opportunities for our students.

## E. Process for Establishing Program Educational Objectives

### PEO Definition

The PEOs were implemented in the AR program practically along its long history. The PEOs are drawn up in an engaging process involving constituents within the broader context of the institutional mission who are the department, the college and the University missions. The mission of the University, College, and department were to instill in its graduates a solid foundation of mathematical, scientific, and general culture knowledge in addition to developing the intellectual skills essential for excelling in their careers. The PEOs were discussed with all faculty members in several departmental meetings.

The PEOs of the AR Program aligned well with the Department's mission of providing the best quality education in (AR). Objective #1 provides students with a solid foundation in the Architecture discipline and design methodologies through emphasis on the application of mathematical, scientific, history, and engineering principles. It provides the students with the knowledge of proper ethical and professional practices relevant to (AR), as well as awareness of the societal impact of mechanical engineering technologies. Objective #2 focuses on the improvement, development and qualification of the teaching and administrative activities of the department. Objectives #3 & #4 concentrate on the development and improvement of the faculty, engineering, technical, and administrative staff capabilities. Objectives #5 considers the optimum use of the department facilities and resources, and improvement and qualification of these facilities. Objectives #6 is related to the engagement and cooperation of the department with the highly qualified and developed universities and countries in order to improve and develop the ME Program of the department. Objectives #7, focuses on the scientific research activities of the department and how it can be directed towards the service of community, government and state.

### PEOs Review

The PEOs review process consists of continuously demonstrating that the PEOs are based on the needs of the program's various constituencies. The review process of the (AR) department PEOs is conducted informally and continuously whenever possible. Assessing the extent to which the PEOs are achieved is an ongoing process through various assessment tools. The collected assessment data from the various sources will be compiled, analyzed, and corrective actions and / or refinements of the PEOs will be conducted as needed. Following is a list of the assessment tools that are used for this purpose:

Alumni survey, Employers survey, Faculty discussion, Students

survey, Industry consultations.

## F. Achievement of Program Educational Objectives

The Program Educational Objectives (PEOs) are rarely changed. They are difficult to assess from both time and cost point of views, as a complete assessment requires surveys of alumni and employers. Our process is to assess them continuously and informally whenever possible through many channels, such as employers and Alumni surveys, students' questioners process, faculty members' opinions, experts from industry opinions… etc. The main weakness of this assessment process is that it was not documented properly. Starting from the present academic year 2010-2011, a systematic documentation for a number of questioners was made, and samples of these questioners will be shown later, See Criteria 4 for Assessment.

# CRITERION 3: PROGRAM OUTCOMES (POs)

## A. Process for Establishing and Revising Program Outcomes

### Establishing the Program Outcomes

The process of defining the PEOs and POs is made practically in the AR program along its long history during the informal and non-documented self-assessment process undertaken by the Department. The broad objectives of the undergraduate program in AR Program were to instill in its graduates a solid foundation of mathematical, scientific, and engineering, drawing and cultural knowledge, in addition to developing the intellectual skills essential for prosperity and success in their careers. Once the Program Educational Objectives were derived based on input of all program constituents, POs were also determined to cover the PEOs, and in the same informal non-documented manner. After we have a review of the ABET POs, we believe that the department along its past history was indeed working to achieve the same outcomes.

### Revising the Program Outcomes

As was mentioned previously in Criterion 2, the assessment process in the department is made informally and continuously through a number of tools, including: Alumni survey, Employers survey, Faculty discussion, Students survey, Industry consultations

## B. Program Outcomes

In the following a review of the ABET Criteria and the program objectives, it has been decided by the AR Department that the ABET Criteria (a - k) encompass the spirit of our educational vision. Therefore, outcomes (a - k) were adopted as the AR POs. The Department POs are:

a. An ability to apply knowledge of mathematics, science, and engineering.
b. An ability to design and conduct experiments, as well as to analyze and interpret data.
c. An ability to design a system, component, or process to meet desired needs.
d. An ability to function on multi-disciplinary teams (Our interpretation of multidisciplinary teams includes teams of individuals with similar educational backgrounds focusing on different aspects of a project as well as teams of individuals with different educational backgrounds).
e. An ability to identify, formulates, and solves engineering problems.
f. An understanding of professional and ethical responsibility.
g. An ability to communicate effectively.
h. The broad education necessary to understand the impact of engineering solutions in a

global and societal context.

i. A recognition of the need for, and an ability to engage in life-long learning (Our interpretation of this includes teaching students that the underlying theory is important because the technology changes, coupled with enhancing their self-learning ability).

j. Knowledge of contemporary issues (Our interpretation of this includes presenting students with issues such as the impact of globalization, the outsourcing of both engineering and other support jobs as practiced by modern international companies).

k. An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

## *C. Relationship of Program Outcomes to Program Educational Objectives*

The POs are closely linked to the PEOs. The relationship illustrating the POs serving each objective is mapped in Tables (3.1) and (3.2).

| | Program Educational Objective | Program Outcomes |
|---|---|---|
| PEO1. | - Have the creative expertise necessary for the broad practice of architectural. This includes analytical, computational and experimental expertise and the ability to integrate and synthesize their expertise to solve complex problems. | A, B, C, E, |
| PEO 2. | - Be able to effectively communicate creative ideas through oral and written media and to function effectively as members and/or leaders of diverse teams. | D, G, |
| PEO 3. | - View technical, ethical and functional problems from a systems perspective with attention to human, business, equipment, materials, energy and information aspects and with appreciation of global and societal contexts. | F, H, K, |
| PEO 4. | - Appreciate the changing world and its effect on the practice of engineering with concern for ethics, currency of expertise and contemporary issues. | I, J, |

Table (3-1): Mapping Between POs and PEOs.

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | F | G | H | I | J | K |
| PEO1. | X | X | X | | X | | | | | | |
| PEO 2. | | | | X | | | X | | | | |
| PEO 3. | | | | | | X | | X | | | X |
| PEO 4. | | | | | | | | | X | X | |

Table (3-2): Matrix of POs to PEOs

## *D. Relationship of Courses in the Curriculum to the Program Outcomes*

To ensure that the outcomes of the AR Program will be achieved by students by the end of their program of study, it is necessary that such outcomes are injected and adequately covered throughout the program curriculum. The POs should be covered by the subjects in the program.

The learning outcomes of the subjects are mapped to the POs with a level of emphasis being **Little or None**, **Some**, **Moderate**, **or Substantial Emphasis**. The level of emphasis of a program outcome is determined by the weight used for assessing the outcome in each subject. The level of emphasis for an outcome is determined by the weight as follows:

**Substantial Emphasis** **Moderate** **Some** **Little or None**

- When the subject outcome weight is < 10%, it will be given a **Little or None** rank.
- When the subject outcome weight is between 10% and 20% it will be given a **Some** rank.
- When the subject outcome weight is between 20% and 30% it will be given a **Moderate** rank.
- When the subject outcome weight is > 30% it will be given a **Substantial Emphasis** rank.

Table (3.3) shows the mapping between the Course Outcomes of AR Program subjects and PO's. The POs are covered in an overlapping manner over the subjects of the program curriculum. Design capabilities are adequately covered by several subjects.

The ability to apply knowledge of math, science and engineering to solve engineering problems are also well addressed in several subjects. Teamwork is encouraged in all subjects with lab work or project. The ability to design and conduct experiments is covered in subjects involving lab work. The use of engineering tools is also emphasized in all subjects with lab work or course projects. Students are also trained on self-learning abilities in several subjects. Communication skills are emphasized in all subjects with a project in addition to the summer training. Some subjects help in enhancing the student's oral presentation skills. The impact of engineering solutions on global and societal context is addressed in the senior design project. A detailed description of the subjects' syllabi and associated subject outcomes is given in Appendix A.

| FIRST YEAR | | A | B | C | D | E | F | G | H | I | J | K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Code** | **Subject** | | | | | | | | | | | |
| **Arc 101** | ***Architectural Design*** | | | | | | | | | | | |
| **Arc 102** | ***Architectural Graphics*** | | | | | | | | | | | |
| **Arc 103** | ***Freehand Drawing*** | | | | | | | | | | | |
| **Arc 104** | ***Principles of Art & Architecture*** | | | | | | | | | | | |
| **Arc 105** | ***Building Construction I*** | | | | | | | | | | | |
| **G.S 106** | ***Mathematics*** | | | | | | | | | | | |
| **G.S 107** | ***Computer programming I*** | | | | | | | | | | | |
| **G.S 108** | ***Arabic Language*** | | | | | | | | | | | |
| **G.S 109** | ***English Language I*** | | | | | | | | | | | |
| **G.S 110** | ***Human Rights*** | | | | | | | | | | | |

| SECOND YEAR | | A | B | C | D | E | F | G | H | I | J | K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Code** | **Subject** | | | | | | | | | | | |
| **Arc 201** | ***Architectural Design*** | | | | | | | | | | | |
| **Arc 202** | ***Architectural Graphics*** | | | | | | | | | | | |
| **Arc 203** | ***Freehand Drawing*** | | | | | | | | | | | |
| **Arc 204** | ***Building Construction II*** | | | | | | | | | | | |
| **Arc 205** | ***Structure I*** | | | | | | | | | | | |
| **Arc 206** | ***History of Architecture I*** | | | | | | | | | | | |
| **Arc 207** | ***Logic and Design Methodology*** | | | | | | | | | | | |
| **G.S 208** | ***Computers II*** | | | | | | | | | | | |
| **G.S 209** | ***English Language II*** | | | | | | | | | | | |
| **G.S 210** | ***Freedom and Democracy*** | | | | | | | | | | | |

| THIRD YEAR | | A | B | C | D | E | F | G | H | I | J | K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Code | Subject | | | | | | | | | | | |
| Arc 301 | *Architectural Design* | | | | | | | | | | | |
| Arc 302 | *Building Construction III* | | | | | | | | | | | |
| Arc 303 | *Structure II* | | | | | | | | | | | |
| Arc 304 | *Principles of Planning* | | | | | | | | | | | |
| Arc 305 | *History of Architecture II* | | | | | | | | | | | |
| C.E. 306 | *Sanitary Services* | | | | | | | | | | | |
| G.S 307 | *Air-Conditioning Services* | | | | | | | | | | | |
| G.S 308 | *Lighting Services* | | | | | | | | | | | |
| G.S 309 | *Computer Programming III* | | | | | | | | | | | |
| Arc 310 | *Methods of Conservation* | | | | | | | | | | | |

| FOURTH YEAR | | A | B | C | D | E | F | G | H | I | J | K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Code | Subject | | | | | | | | | | | |
| Arc 401 | *Architectural Design* | | | | | | | | | | | |
| Arc 402 | *Interior Design* | | | | | | | | | | | |
| Arc 403 | *Landscape Design* | | | | | | | | | | | |
| Arc 404 | *Advanced Building Technologies* | | | | | | | | | | | |
| Arc 405 | *Housing Planning* | | | | | | | | | | | |
| Arc 406 | *Housing* | | | | | | | | | | | |
| Arc 407 | *Theories of Architecture* | | | | | | | | | | | |
| Arc 408 | *Islamic Arab Architecture* | | | | | | | | | | | |
| Arc 409 | *Architecture and Climate* | | | | | | | | | | | |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Arc 410** | ***Acoustics of Architecture*** | | | | | | | | | | | |
| **Arc 411** | ***Theories of Urban Design*** | | | | | | | | | | | |
| **C.E 412** | ***Surveying*** | | | | | | | | | | | |

| **FIFTH YEAR** | | **A** | **B** | **C** | **D** | **E** | **F** | **G** | **H** | **I** | **J** | **K** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Code** | **Subject** | | | | | | | | | | | |
| **Arc 501** | ***Architectural Design*** | | | | | | | | | | | |
| **Arc 502** | ***Thesis Project*** | | | | | | | | | | | |
| **Arc 503** | ***Specification and Estimation*** | | | | | | | | | | | |
| **Arc 504** | ***Profession Practice*** | | | | | | | | | | | |
| **Arc 505** | ***Theories of Architectural Design*** | | | | | | | | | | | |
| **Arc 506** | ***Theories of Architectural Criticism*** | | | | | | | | | | | |
| **Arc 507** | ***Contemporary Iraqi Architecture*** | | | | | | | | | | | |
| **Arc508** | ***Contemporary Arab Architecture*** | | | | | | | | | | | |
| **Arc509** | ***Philosophy of Architecture*** | | | | | | | | | | | |

**Substantial Emphasis** **Moderate** **Some** **Little or None**

Table (3.3): Required Subjects and Their Emphasis on POs

## E. Learning Outcomes:

Skills acquired by students and methods of measurement. Table (3.4)

| Acquired Skills | Lessons through which skills acquired | Method of Assessing of the skill |
|---|---|---|
| a. An ability to apply knowledge of mathematics, science, and engineering. | | |
| | | |
| b. An ability to design and conduct experiments, as well as to analyze and interpret data. | | |
| | | |
| c. An ability to design a system, component, or process to meet desired needs. | | |
| | | |
| d. An ability to function on multi-disciplinary teams | | |
| | | |
| e. An ability to identify, formulates, and solves engineering problems. | | |
| | | |
| f. An understanding of professional and ethical responsibility. | | |
| | | |
| g. An ability to communicate effectively. | | |
| | | |
| h. The broad education necessary to understand the impact of engineering solutions in a global and societal context. | | |
| | | |
| i. A recognition of the need for, and an ability to engage in life-long learning | | |
| | | |
| j. Knowledge of contemporary issues | | |
| | | |
| k. An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice. | | |
| | | |

## F. Documentation

Starting from the academic year 2010-2011, the department starts for the first time the process of making subjects portfolio, which are designed to include the documentation for the entire program outcomes for all AR subjects. The following documents are planned to be accessible to the visitors for review.

i. Subjects portfolios for some of AR subjects.
ii. Department of Architectural Engineering Guide.
iii. College of Engineering Catalog.
iv. Minutes of some Committees meetings of AR Departmental.
v. The portfolio for a certain subject includes, in it, all the necessary information, pertinent to that particular subject. These are;

a. Subject contribution to the program outcome.
b. Subject assessment reports.
c. Faculty/ Subject self-assessment reports.
d. Detailed subject syllabus.
e. Subject objectives.
f. Subject Learning Outcomes.
g. Student Grade Distribution.
h. Subject student evaluation.
i. Three samples of students graded work (tests, final exam, quizzes, and assignments.
j. Original copy of tests, exam, quizzes, and assignments.
k. Lab sheets and sample of Lab reports.
l. Lab Manual.
m. Samples of term project reports.

It should be noted here that all of the contents of each subject portfolio have to be updated each year.

# CRITERION 4: CONTINUOUS IMPROVEMENT

## Introduction

The Architecture Dept. at University of Baghdad offers program leading to a bachelor's of Science degree in AR. A comprehensive assessment program to evaluate the program objectives and the student outcomes to improve the program on a continuous basis has been initiated. This document outlines the procedure with which the outcomes and objectives are assessed and the results are evaluated and then benchmarked against targeted goals and how the curriculum and/or program requirements are changed to meet these goals. The continuous improvement process is based upon the assessment, evaluation and comparison to targeted levels of performance and then feedback to changes in the curriculum. The program objectives and student outcomes are defined to be in compliance with the (ABET).

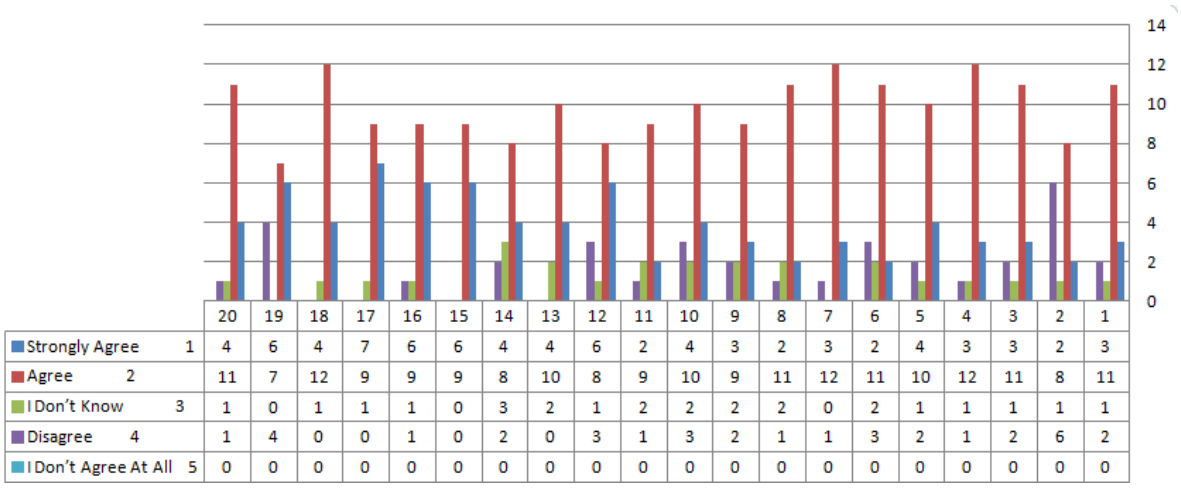
## A. Review of Program Outcomes and Student Objectives

The program outcomes will be periodically reviewed (every other year) with the faculty and the related committees in the department. To support the program, the AR Dept. has made questioners to (17) different state offices, factories, companies and also private sector companies asking them about their opinions in the department graduates and their suggestions to improve the program. The assessments are analyzed by the faculty to determine if changes are needed. The results of the questioners are shown in Figure (4.1).

| | | | | | |
|---|---|---|---|---|---|
| **University of Baghdad / College of Engineering** | | | | | |
| **Architectural Engineering Department** | | | | | |
| Work Institutions Opinion Questionnaire about Graduates of Baghdad University / Academic Year 2010 - 2011 | | | | | |
| Graduation Year: | | College: | | Department | |
| **Specialization:** | | Date of Appointment: | | Male: | Female: |
| **Ministry \ Institution That Employs Graduate:** | | | | **Department\ Section:** | |
| **Work Position:** | Governmental | | Individual | | |
| No. of years of service to graduate in his place: | | | | | |

The interest in the performance of graduates in the job in the institutions in which they work is very useful in the development of the quality of scientific programs and training for all disciplines in the universities. The feedback to the colleges and departments to help supplement the institutions in the public and private sectors with graduates that is highly qualified in the functional performance of their duties. So please provide us with information through the specimen to answer the following questions by putting (√) in the place which reflects the performance of graduates taking into account the accuracy and objectivity in the public interest ... Appreciate your cooperation.

| | Question | Strongly Agree 1 | Agree 2 | I Don't Know 3 | Disagree 4 | I Don't Agree At All 5 |
|---|---|---|---|---|---|---|
| 1 | Has sufficient knowledge and information related to employment issues | 3 | 11 | 1 | 2 | - |
| 2 | Has sufficient skills related to employment issues | 2 | 8 | 1 | 6 | - |
| 3 | Possesses the skills of social communication with customers | 3 | 11 | 1 | 2 | - |
| 4 | Have written communication skills (writing the required reports are properly) | 3 | 12 | 1 | 1 | - |
| 5 | Possesses the skills of research and analysis in the affairs of the workListen | 4 | 10 | 1 | 2 | - |
| 6 | Possess critical thinking skills and the ability to solve problemsListen | 3 | 11 | - | 3 | - |
| 7 | Possesses the skills of teamwork | 6 | 9 | 1 | 1 | - |
| 8 | Has the skills to work within the team | 4 | 8 | 2 | 3 | - |
| 9 | Possesses the skills of planning and organization for work | 4 | 10 | 3 | - | - |
| 10 | Has the ability of high productivity at work | 6 | 9 | - | 2 | - |
| 11 | Has the quality of work performance piece | 7 | 8 | 2 | - | - |
| 12 | Has the capacity to creativity, innovation and work development | 6 | 9 | 1 | 1 | - |
| 13 | Has the ability to comply with the various conditions of the work | 7 | 9 | 1 | - | - |
| 14 | Has the ability to take responsibility | 4 | 12 | 1 | - | - |
| 15 | Possesses the skills of social interaction with colleagues | 6 | 7 | - | 4 | - |
| 16 | Has the ability to accept guidance and ready for implementation | 4 | 11 | 1 | 1 | - |
| 17 | Has a sense of the importance of work performed by | 7 | 9 | 1 | - | - |
| 18 | Has the ability to audit and review the work assigned to him | 4 | 12 | 1 | - | - |
| 19 | Has the ability to deal with the problems and difficulties of working with | 6 | 7 | - | 4 | - |
| 20 | Has the capacity to follow up on any up-dates in the field of workListen | 4 | 11 | 1 | 1 | - |




| | 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Strongly Agree 1 | 4 | 6 | 4 | 7 | 6 | 6 | 4 | 4 | 6 | 2 | 4 | 3 | 2 | 3 | 2 | 4 | 3 | 3 | 2 | 3 |
| Agree 2 | 11 | 7 | 12 | 9 | 9 | 9 | 8 | 10 | 8 | 9 | 10 | 9 | 11 | 12 | 11 | 10 | 12 | 11 | 8 | 11 |
| I Don't Know 3 | 1 | 0 | 1 | 1 | 1 | 0 | 3 | 2 | 1 | 2 | 2 | 2 | 2 | 0 | 2 | 1 | 1 | 1 | 1 | 1 |
| Disagree 4 | 1 | 4 | 0 | 0 | 1 | 0 | 2 | 0 | 3 | 1 | 3 | 2 | 1 | 1 | 3 | 2 | 1 | 2 | 6 | 2 |
| I Don't Agree At All 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Figure (4.1): Opinion Questionnaire About Graduates

## B. Summary of Student Outcomes Assessment Techniques

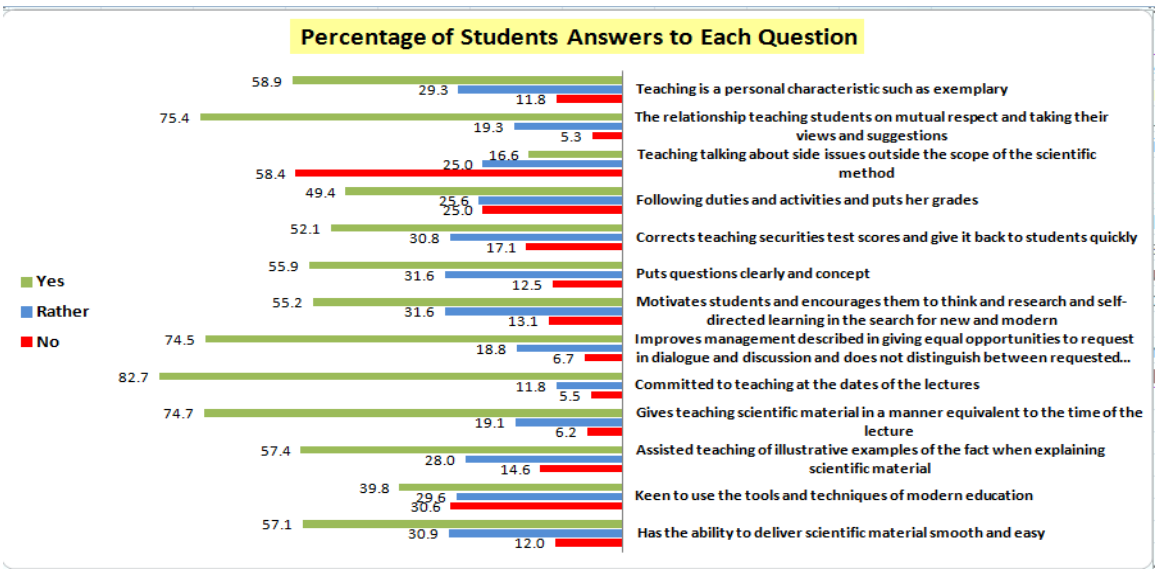
* Alumni survey as described above but a portion that addresses the student outcomes.
* Co-op Employer evaluation data is obtained at the end of the student co-op

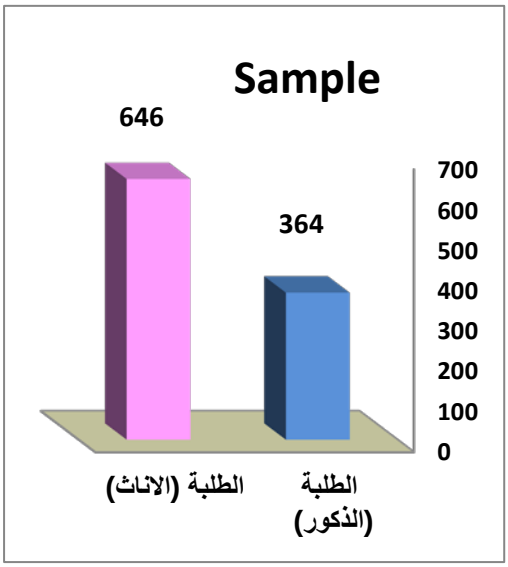
experience from co-op employer surveys regarding student performance.
* Student Co-op evaluation data is obtained from students at the end of their co-op experience regarding the students' perception of their performance.
* Senior Exit Survey are given every year in the senior design capstone class to determine how well students feel they have achieved the student outcomes.
* Summary of student performance is gathered in the form of final grades of the AR courses.
* Evaluation of student data, specifically of transcripts for each graduate, is analyzed for time to graduation and retention rate as well as performance in ME courses.
* Embedded assessment is performed in every class, every year. Not all student outcomes are evaluated in every single class but a representative sample is chosen. This will be accomplished by assess student assignments, quizzes, exams, lab reports, projects and presentations.

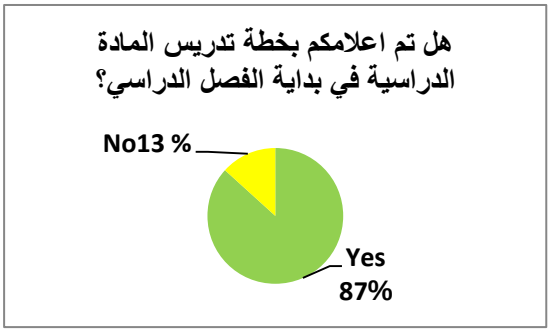
## C. Responsibilities of Assessment, Evaluation, and Continuous Improvement Process

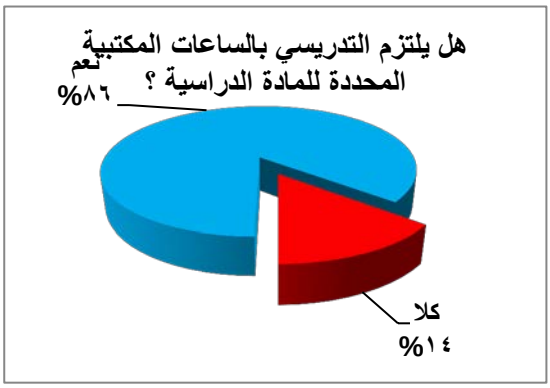
Faculty who teach the AR courses are responsible for writing the rubrics for embedded assessment and for determining level of acceptable performance. These faculties are responsible for keeping track of the assessment and for offering changes to the program, if needed based upon the results of assessment.

The AR Dept. related Committees have been formed to perform a yearly internal audit of the continuous improvement process. These committees are currently made up of the AR faculty who will meet after the summer vacation each academic year. Action plans resulting from this annual meeting will be presented depending upon the action plan. The committees are responsible for communicating the results of the assessment (when appropriate) with ME faculty, with the Department Head, and with students. The AR determined that a standardized advising process needed to be developed and posted to make students aware of the correct procedures for being advised. The faculty meets and discusses with the students about the long-term strategy of his/her curriculum.






## D. Data Collection and Analysis

### 1. Direct assessment data

- Will be collected during the academic year and analyzed during May of each academic year.
- Analysis will be discussed by faculty involved in teaching ME courses for suggested action.
- Department head will be sought the inputs after the initial analysis of data by faculty, depending upon the level of action.

### 2. Indirect assessment data

- Will be collected on a proposed timescale.
- The analysis will be performed by the related committees.
- Analysis will be discussed with the faculty, the Department Head, and depending upon the situation, students, and suggested action will be solicited and implemented.

## Actions to Improve the Program

Continuous improvement is a focus of our department and is done every day as a natural part of our profession. We strive always to improve processes that are weak and fix processes that are broken. We have not set “degrees of attainment” goals for each of the outcomes. We attempt to work on every deficit we uncover in our efforts to achieve outcomes. We expect

every instructor to continuously improve performance of students in his / her subjects, whether they are currently at low or high level. We practice continuous improvement not because of quality assurance, but because we want our program to be "optimal" given the constraints that we have, analogous to any optimization problem that ME might try to solve. The following specific actions have either been successfully implemented or are in process.

1. Comprehensive changes in curriculum in the academic year 2008-2009.
2. Continuous improvement of faculty through training programs.
3. Promoting a number of faculty members to higher scientific ranks.
4. Purchasing a number of laboratory equipment and measuring instruments.
5. Purchasing a number of books for the library of the department.
6. Purchasing a number of computers.
7. Establishment of network access facilities provided by the Computer Center of Baghdad University in the form of a Wireless LAN network with 10 terminals available now in the department.
8. Employment a number of faculty, engineering and technical staff.
9. Increase in extra-curricular activities for students such as setting up scientific conferences and seminars.
10. Reconstruction and rehabilitation of classrooms and rooms in the department, as well as services and infrastructure.

## F. Dissemination

After any action has been taken, the action will be assessed with the most appropriate assessment tools listed above and a review of the action will be discussed with faculty, the Department Head and with students.

- Changes that are approved by the Input Process will be added to the University Catalog, which will be the source of information for all other publications and websites in the near future.
- Students – the websites that describe the curriculum and program will be updated with any and all actions that take place. Emails will be sent to all AR students with the changes to the curriculum along with a discussion of how the changes impact current students.
- Faculty – will be informed of assessment results and subsequent changes via faculty meetings, emails, and written memos.
- Alumni – will be informed of changes to the program objectives and the program itself via email and phone calls.

# CRITERION 5: CURRICULUM

## A. Program Curriculum

The Bachelor of Science (B.Sc.) in AR conferred by the department includes one branch which is General Architecture, and the student should complete this specialty starting from the first year of study. A lot of curriculums are presented in the five academic years, and specialization of the three categories is made in the post graduate as high studies in specialized subjects taught to the student.

Adequate time and attention is given to design the subject objectives of each curriculum component such that it meets the program objectives and outcomes. This adequacy is evident from the curriculum syllabi as demonstrated in Appendix A. Typical degree program is shown in Tables (5.1.). The architectural engineering curriculum provides a good balance between **architectural design and basic sciences, Engineering Topics and general education subjects.**

The AR Program prepares students for engineering practice through the whole 5-year curriculum. Ideally, a better approach would have been to first design the objectives and outcomes of the program, and then design the curriculum based on that information.

Table (5.1.): B.Sc. Degree Curriculum \ General Architectural Engineering

| FIRST YEAR | | | 1st Semester Hours/Week | | | 2nd Semester Hours/Week | | |
|---|---|---|---|---|---|---|---|---|
| Code | Subject | Units | Theo | Applied | Lab | Theo | Applied | Lab |
| Arc 101 | Architectural Design | 12 | 2 | 8 | - | 2 | 8 | - |
| Arc 102 | Architectural Graphics | 4 | 1 | 2 | - | 1 | 2 | - |
| Arc 103 | Freehand Drawing | 3 | - | 4 | - | - | 4 | - |
| Arc 104 | Principles of Art and Architecture | 4 | 2 | - | - | 2 | - | - |
| Arc 105 | Building Construction I | 4 | 2 | - | - | 2 | - | - |
| G.S 106 | Mathematics | 4 | 2 | - | - | 2 | - | - |
| G.S 107 | Computer programming I | 4 | 1 | 2 | - | 1 | 2 | - |
| G.S 108 | Arabic Language | 4 | 2 | - | - | 2 | - | - |
| G.S 109 | English Language I | 4 | 2 | - | - | 2 | - | - |
| G.S 110 | Human Rights | 4 | 2 | - | - | 2 | - | - |
| **Total** | | 47 | 16 | 16 | - | 16 | 16 | - |
| **Total hours per week** | | | 32 | | | 32 | | |

## SECOND YEAR

| Code | Subject | Units | 1st Semester Hours/Week | | | 2nd Semester Hours/Week | | |
|---|---|---|---|---|---|---|---|---|
| | | | Theo | Applied | Lab | Theo | Applied | Lab |
| Arc 201 | Architectural Design | 12 | 2 | 8 | | 2 | 8 | - |
| Arc 202 | Architectural Graphics | 4 | 1 | 2 | | 1 | 2 | - |
| Arc 203 | Freehand Drawing | 3 | -- | 4 | | -- | 4 | - |
| Arc 204 | Building Construction II | 4 | 2 | 3 | | 2 | 3 | - |
| Arc 205 | Structure I | 4 | 2 | - | | 2 | - | - |
| Arc 206 | History of Architecture I | 4 | 2 | - | | 2 | - | - |
| Arc 207 | Logic and Design Methodology | 4 | 2 | - | | 2 | - | - |
| G.S 208 | Computers II | 4 | 1 | 2 | | 1 | 2 | - |
| G.S 209 | English Language II | 4 | 2 | - | | 2 | - | - |
| G.S 210 | Freedom and Democracy | 4 | 2 | - | | 2 | - | - |
| **Total** | | 47 | 16 | 19 | | 14 | 19 | - |
| **Total hours per week** | | | 35 | | | 33 | | |

## THIRD YEAR

| Code | Subject | Units | 1st Semester Hours/Week | | | 2nd Semester Hours/Week | | |
|---|---|---|---|---|---|---|---|---|
| | | | Theo | Applied | Lab | Theo | Applied | Lab |
| Arc 301 | Architectural Design | 14 | 2 | 10 | - | 2 | 10 | - |
| Arc 302 | Building Construction III | 6 | 2 | 3 | - | 2 | 3 | - |
| Arc 303 | Structure II | 4 | 2 | 1 | - | 2 | 1 | - |
| Arc 304 | Principles of Planning | 4 | 2 | - | - | 2 | - | - |
| Arc 305 | History of Architecture II | 4 | 2 | - | - | 2 | - | - |
| C.E. 306 | Sanitary Services | 2 | 2 | - | - | 2 | - | - |
| G.S 307 | Air-Conditioning Services | 2 | -- | - | - | -- | - | - |
| G.S 308 | Lighting Services | 2 | 2 | - | - | 2 | - | - |
| G.S 309 | Computer Programming III | 4 | 1 | 2 | - | 1 | 2 | - |
| Arc 310 | Methods of Conservation | 2 | - | - | - | - | - | - |
| **Total** | | 44 | 15 | 16 | | 15 | 16 | - |
| **Total hours per week** | | | 31 | | | 31 | | |

## FOURTH YEAR

| Code | Subject | Units | 1st Semester Hours/Week | | | 2nd Semester Hours/Week | | |
|---|---|---|---|---|---|---|---|---|
| | | | Theo | Applied | Lab | Theo | Applied | Lab |
| Arc 401 | Architectural Design | 14 | 2 | 10 | - | 2 | 10 | - |
| Arc 402 | Interior Design | 2 | 1 | 3 | - | - | - | - |
| Arc 403 | Landscape Design | 2 | -- | - | - | 1 | 3 | - |
| Arc 404 | Advanced Building Technologies | 4 | 2 | - | - | 2 | - | - |
| Arc 405 | Housing Planning | 2 | 2 | - | - | -- | - | - |
| Arc 406 | Housing | 2 | - | - | - | 2 | - | - |
| Arc 407 | Theories f Architecture | 4 | 2 | - | - | 2 | - | - |
| Arc 408 | Islamic Arab Architecture | 4 | 2 | - | - | 2 | - | - |
| Arc 409 | Architecture and Climate | 2 | 2 | - | - | -- | - | - |
| Arc 410 | Acoustics of Architecture | 2 | -- | - | - | 2 | - | - |
| Arc 411 | Theories of Urban Design | 2 | -- | - | - | 2 | - | - |
| C.E 412 | Surveying | 2 | 1 | 2 | - | -- | - | - |
| **Total** | | 42 | 14 | 15 | - | 15 | 13 | - |
| **Total hours per week** | | | 29 | | | 28 | | |

## FIFTH YEAR

| Code | Subject | Units | 1st Semester Hours/Week | | | 2nd Semester Hours/Week | | |
|---|---|---|---|---|---|---|---|---|
| | | | Theo | Applied | Lab | Theo | Applied | Lab |
| Arc 501 | Architectural Design | 7 | 3 | 9 | - | - | - | - |
| Arc 502 | Thesis Project | 15 | 2 | 6 | - | 3 | 15 | - |
| Arc 503 | Specification and Estimation | 2 | 2 | - | - | - | - | - |
| Arc 504 | Profession Practice | 2 | - | - | - | 2 | - | - |
| Arc 505 | Theories of Architectural Design | 2 | 2 | - | - | - | - | - |
| Arc 506 | Theories of Architectural Criticism | 2 | - | - | - | 2 | - | - |
| Arc 507 | Contemporary Iraqi Architecture | 2 | 2 | - | - | - | - | - |
| Arc508 | Contemporary Arab Architecture | 2 | - | - | - | 2 | - | - |
| Arc509 | Philosophy of Architecture | 2 | - | - | - | 2 | - | - |
| **Total** | | 36 | 11 | 15 | - | 11 | 15 | - |
| **Total hours per week** | | | 26 | | | 26 | | |

- ***The adopted standards:***

Sum of the total studying hours = 4545 hour
Sum of the total theoretical hours = 2145 hour (47.2 %)
Sum of the total practical hours = 2400 hour (52.8 %)
The ratio of the basic subjects =14.8%
The ratio of the cultural subjects =2.7%
The ratio of the engineering subjects = 82.5%
Number of the total units = 216 unit

## *B. Credit Hour Distribution*

Table (5.3.) Shows the General Architectural Engineering Program Curriculum. For each curricular area specifically addressed by either the general criteria or the program criteria as shown in tables, describe how the program meets the specific requirements in terms of hours and depth of study. The tables also indicate the subjects that contain significant design component. Figure 5.1 illustrates the general relative distribution of each category.

Table (5.3.): Plan of study for Baccalaureate Degree

| ACADEMIC YEAR SUBJECTS | | | Curricular Area (Credit Hours) | | |
|---|---|---|---|---|---|
| Code | Subject | Units | Architectural Design / Basic Sciences | Engineering Topics | General Education |
| Arc 101 | Architectural Design | 12 | 5 | | |
| Arc 102 | Architectural Graphics | 4 | 5 | | |
| Arc 103 | Freehand Drawing | 3 | 4 | | |
| Arc 104 | Principles of Art and Architecture | 4 | | 4 | |
| Arc 105 | Building Construction I | 4 | 4 | | |
| G.S 106 | Mathematics | 4 | | 3 | |
| G.S 107 | Computer programming I | 4 | | 4 | |
| G.S 108 | Arabic Language | 4 | | | 3 |
| G.S 109 | English Language I | 4 | | | 3 |
| G.S 109 | Human Rights | 4 | | | 2 |
| | | | | | |
| Arc 201 | Architectural Design | 12 | 5 | | |
| Arc 202 | Architectural Graphics | 4 | 5 | | |
| Arc 203 | Freehand Drawing | 3 | 4 | | |
| Arc 204 | Building Construction II | 4 | 4 | | |
| Arc 205 | Structure I | 4 | | 3 | |
| Arc 206 | History of Architecture I | 4 | | 4 | |
| Arc 207 | Logic and Design Methodology | 4 | | 3 | |
| G.S 208 | Computers II | 4 | | 4 | |
| G.S 209 | English Language II | 4 | | | 3 |
| G.S 210 | Freedom and Democracy | 4 | | | 2 |
| | | | | | |
| Arc 301 | Architectural Design | 14 | 6 | | |

| | | | | | |
|---|---|---|---|---|---|
| Arc 302 | Building Construction III | 6 | 4 | | |
| Arc 303 | Structure II | 4 | | 3 | |
| Arc 304 | Principles of Planning | 4 | 4 | | |
| Arc 305 | History of Architecture II | 4 | | 4 | |
| C.E. 306 | Sanitary Services | 2 | | | 3 |
| G.S 307 | Air-Conditioning Services | 2 | | | 3 |
| G.S 308 | Lighting Services | 2 | | | 3 |
| G.S 309 | Computer Programming III | 4 | | 3 | |
| Arc 310 | Methods of Conservation | 2 | | 3 | |
| | | | | | |
| Arc 401 | Architectural Design | 14 | 5 | | |
| Arc 402 | Interior Design | 2 | 5 | | |
| Arc 403 | Landscape Design | 2 | 5 | | |
| Arc 404 | Advanced Building Technologies | 4 | | 4 | |
| Arc 405 | Housing Planning | 2 | 4 | | |
| Arc 406 | Housing | 2 | 4 | | |
| Arc 407 | Theories f Architecture | 4 | | 3 | |
| Arc 408 | Islamic Arab Architecture | 4 | | 4 | |
| Arc 409 | Architecture and Climate | 2 | | 3 | |
| Arc 410 | Acoustics of Architecture | 2 | | 3 | |
| Arc 411 | Theories of Urban Design | 2 | | 3 | |
| C.E 412 | Surveying | 2 | | | 3 |
| | | | | | |
| Arc 501 | Architectural Design | 7 | 6 | | |
| Arc 502 | Thesis Project | 15 | 6 | | |
| Arc 503 | Specification and Estimation | 2 | | 3 | |
| Arc 504 | Profession Practice | 2 | | 3 | |
| Arc 505 | Theories of Architectural Design | 2 | | 4 | |
| Arc 506 | Theories of Architectural Criticism | 2 | | 4 | |
| Arc 507 | Contemporary Iraqi Architecture | 2 | | 4 | |
| Arc508 | Contemporary Arab Architecture | 2 | | 4 | |
| Arc509 | Philosophy of Architecture | 2 | | 3 | |
| | **TOTAL** | **216** | **85** | **83** | **25** |
| | **% of TOTAL** | **100%** | **44%** | **43%** | **13%** |

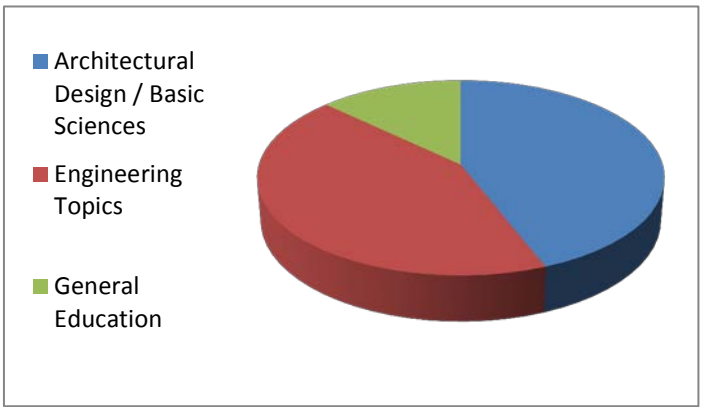



Figure (5.1): General Relative Distributions of Curriculum Categories

## C. Requirements for B.Sc. in Architectural Engineering

The following subsections describe the program areas: (1) Architectural Design as Basic Science, (2) Engineering Topics includes Technical engineering component (3) General Education including social and humanity component.

AR program subjects develop the knowledge and skills that will enable students to:

- Apply basic Architectural and scientific concepts for the description and solution of engineering problems,
- develop initial proficiency in architectural engineering disciplines,
- develop the ability to conduct projects, analyze and criticize data,
- perform engineering integrated design of systems, components, or processes by means of practical experiences (team work),
- identify, formulate, and solve architectural problems using modern engineering tools, techniques, and skills,
- collaborate in team work projects,

## Department-Level Components

The Department established a wide base of knowledge sources through its five years curriculum. It was designed to provide students with the essential knowledge and let them get the necessary qualification of the topics covered all architectural issues, and supported sciences which is needed. It consist practical side and theoretical one.

### 1. The practical topics are:

- Architectural design.
- Graphics.
- Freehand drawing.
- Landscape design.
- Interior design.
- Building construction.

### 2. The theoretical topics are:

### 2.1: Theory of Architecture

- Theory of architecture.
- History of architecture.
- Conservation.
- Theory and criticism.
- Arabic architecture.
- Iraqi Architecture.
- Islamic Architecture.

### 2.2: Environment and Architecture

- Climate and architecture.
- Acoustics.
- Lightening.

- Surveying.

### 2.3: Technology and Architecture

- Building construction.
- Structure.
- Construction.

### 2.4: Urban design

- Planning.
- Housing.
- Urban design.

### 2.5: Engineering

- Specification and Estimation.
- Profession Practice.

### 2.6: Languages

- Arabic language.
- English language.

### 2.7: Sciences

- Mathematics.

### 2.8: Services

- Air-conditioning.
- Sanitary.

The department since its establishment in 1959 used to make the necessary updating to the main knowledge issued and topics.

Also, new materials were added to the curriculum to match the necessary needs for the academic qualification to the students which is necessary for the work field in future.

## ☐Summer Training

The architectural curriculum requires students to complete two months of summer training at governmental firms. This training is a compulsory component of graduation requirements. It is supervised by the Summer Training Committee of the department. Summer training gives the students the chance to combine the formal classroom's study and the relevant practical experience. This program aims at bringing the student to distinguish professional standards required at the work fields. It also provides the student with the knowledge of what is to be expected of architects together with identifying working areas of architectural designers. This training program is a strong support of our educational objective since it provides industrial training to facilitate the student's integration into professional life. During the third year of the program, the student must take summer training work. A supervisor designated by the training institution or company evaluates the student's work during summer training. This training program is not credited by hours, but it should be fulfilled before graduation. The student also gets the chance to apply the theoretical part of the subjects he learned.

## ☐Alignments Curriculum with Program Educational Objectives

The faculty has complete authority to define, revise, implement, and achieve program educational objectives. Input is required from the students, alumni, and the employers of our alumni in the implementation of program objectives. The major role of the faculty is to create, revise, and evaluate subjects for the program as well as define and revise program educational objectives and ensure achievement of student outcomes. Therefore, the above process ensures alignment of the curriculum with Program Educational Objectives as shown in various tables.

The AR faculty insures that the students receive all the engineering analysis within the context of engineering program. At our faculty meetings, the discussion is possible subjects to be introduced in the different subjects and brainstorm on ways to bring engineering program and open-ended problems into our subjects. Many of our subjects include a term project in which the students work in groups and apply the knowledge and skills acquired in the subject to the solution of an open-ended problem.

# Criterion -6- faculty

## A. Assessment of the adequacy of the number of professors

The department gets (46) staff members, the staff structure analysis show:

1- 4- Professor
2- 2-Assist professors.
3- 14-Lecturer.
4- 18-Assist lecturer.

**Note**:
(4) of the assist lecturer are working for their Ph.D. inside and outside Iraq, besides many of the staff members are working of their scientific degree.

***Names of the Faculty members in the Department of Architectural Engineering for academic year 2010-2011***

| | | | |
|---|---|---|---|
| 1 | Dr. Saba Jabar Neama Abdulah Al-Khafaji | Professor 2003 | Ph. D. in Architectural Engineering-Acoustics-Architecture and Environment (Head of the Architectural Department) |
| 2 | Talib Hameed Al-Talib | Professor 1998 | M. Sc in Architectural Engineering-Planning |
| 3 | Dr. Bahjat Rashad Shaheen | Professor 2000 | Ph. D. in Architectural Engineering – Architecture and Environment |
| 4 | Dr. Ghada Mousa Rizoqi | Professor 2000 | Ph. D. in Architectural Engineering-Theory and Philosophy of Architectural Design |
| 5 | Dr. Sabah Fakher Al-Deen Abdul Qadir Noori | Professor 2011 | Ph. D. in Fine Arts-Sculpture |
| 6 | Dr. Areej Kareem Majeed Al-Sad Khan | Asst Professor 2004 | Ph. D. in Architectural Engineering- Philosophy of Design and Criticism |
| 7 | Dr. Huda Abdul Sahib Hasan Al- Alwan | Asst Professor 2006 | Ph. D. in Architectural Engineering-Environment Psychophysics |
| 8 | Mohammed Rida Majeed Mohammed Al-Jalabi | lecturer 2000 | M. Sc in Architectural Engineering-Hospital Design |
| 9 | Dr.Amjad Mahmmod Abdullah Muhsin Al-Badri | Lecturer 2006 | Ph. D. in Architectural Engineering- Environment Of Architecture |
| 10 | Dr. Abdul Jawad Hasan Aziz | Lecturer 2005 | Ph. D. in Architectural Engineering-Urban Planning |
| 11 | Dr. Kadhim faris Dhumad Al-essawi | Lecturer 2006 | Ph. D. in Architectural Engineering-Housing |
| 12 | Dr. Shatha Abbas Hasan | Lecturer 2009 | Ph. D. in Architectural Engineering-Housing |
| 13 | Dr. Zainab Radhi Abbas | Lecturer 2012 | Ph. D. in Architectural Engineering- Urban Planning |
| 14 | Ghada Mohammed Ismaaeel | Lecturer 2011 | Ph. D. in Architectural Engineering- Environmental Architecture |
| 15 | Nisreen Abdu Razaq Ibrahim Al-Juburi | Lecturer 2011 | M. Sc in Architectural Engineering- Urban Design |
| 16 | Layth Muthana Khaleel Fahmi | Lecturer 2012 | M. A. in Linguistics- College of Arts- English Language |
| 17 | Maysa' Ziara Mohammed | Lecturer 2011 | M. Sc in Architectural Engineering |
| 18 | Amar Salim Dawood Al-Dulaimi | Lecturer 2011 | M. Sc in Architectural Engineering |
| 19 | Wijdan Haseeb Khamees | Lecturer 2012 | M. Sc in Architectural Engineering |
| 20 | Sajida Khadim Elaiwi Al-Kindi | Lecturer 2012 | M. Sc in Architectural Engineering |
| 21 | Anfal Mu'ayad Ma'yoof Al-Hijiat | Asst Lecturer 2006 | M. Sc in Architectural Engineering |
| 22 | Amar Salih Ashoor Al-Timimi | Asst Lecturer 2005 | M. Sc in Architectural Engineering |
| 23 | Sharq Jafer Hadi Al-Yasiri | Asst Lecturer 2006 | M. Sc in Architectural Engineering |
| 24 | Ali Basim Abdul Karim | Asst Lecturer 2006 | M.A. in Interior Design |
| 25 | Usama Abdul Mun'im Kherebut | Asst Lecturer 2006 | M. Sc in Architectural Engineering |
| 26 | Anas Hameed Majeed | Asst Lecturer 2007 | M. Sc in Architectural Engineering |
| 27 | Hisham Alaa' Husain | Asst Lecturer 2007 | M. Sc in Architectural Engineering |
| 28 | Ahmed Khider Abdul Rida | Asst Lecturer 2007 | M. Sc in Civil Engineering |
| 29 | Zainab Khalid Ahmed | Asst Lecturer 2007 | M. Sc in Architectural Engineering |
| 30 | Asmaa Sadiq Abdul Kareem | Asst Lecturer 2007 | M. Sc in Architectural Engineering |
| 31 | Sally Fakhri Khalaf | Asst Lecturer 2007 | M. Sc in Architectural Engineering |
| 32 | Huda Sabah Fakher Al-Deen | Asst Lecturer 2007 | M. Sc in Architectural Engineering |
| 33 | Muhand Hilal Muhaisn | Asst Lecturer 2007 | M. Sc in Architectural Engineering |
| 34 | Fawziya Raheem Husain | Asst Lecturer 2008 | M. Sc in Architectural Engineering |
| 35 | Inas Hasan Shukur | Asst Lecturer 2008 | M. Sc in Architectural Engineering |
| 36 | Aseel Abdul Haleem Lateef | Asst Lecturer 2008 | M. Sc in Architectural Engineering |

| | | | |
|---|---|---|---|
| 37 | Haala Shamsi Mohammed | Asst Lecturer 2008 | M. Sc in Architectural Engineering |
| 38 | Zuha Mohammed Tahir | Asst Lecturer 2008 | M. Sc in Architectural Engineering |
| 39 | Ahmed Natiq Al-Shamma' | Asst Lecturer 2008 | M. Sc in Architectural Engineering |

The leave-taking employees in Architectural Department for academic year 2011-2012

| | The names | The scientific title | The situation | specification |
|---|---|---|---|---|
| 1 | Rand Hazim Aagha | Lecturer | Ph. D. permission / Outside Iraq. | M. Sc / Arch. Interior Design |
| 2 | Dirgham Mizhir Kareem | Asst Lecturer | Ph. D. permission / Outside Iraq. | M. Sc / Arch. Technology |
| 3 | Haider Assad Abdl Razzaq | Asst Lecturer | Ph. D. permission / Outside Iraq. | M.A. / in Fine Art |
| 4 | Aalaa Abdul Hadi Abbas | Asst Lecturer | Ph. D. permission / Outside Iraq. | M. Sc / Servaying |

The Assistant Engineers in Architectural Department for academic year 2011-2012

| | The names | The scientific title | The situation |
|---|---|---|---|
| 1 | Sura Saad Aziz | Asst. Engineer | M.Sc. permission / Inside Iraq. |
| 2 | Aamaal Fadhil Khanjar | Asst. Engineer | M.Sc. permission / Inside Iraq. |
| 3 | Basma Mohammed Yassen | Asst. Engineer | Motherhood permission |

## B. *Performance of the professors and their interaction*

- All the topics are covered by the staff and there specialization and they are working hard to represent high standard of educational process and teaching methodology.
- They participate in scientific conferences and workshops, for different architectural and scientific issues, and educational development criteria.
- They work hard for their researches in different specialization in architectural, urban design, environmental, and scientific issues.
- Their performance is evaluated with accordance to special scientific standards, and with matching approaches with other universities for comparison reason.
- Examination results, class average, success percentage for each staff (member/ lesson) and (lesson / course) is evaluated with accordance to restrict scientific parameters.

## C. *Capability development of the teaching staff.*

- Participating in scientific conference and workshops.
- Working for researches and scientific papers.
- Publishing, writing and translating books.
- Getting chances to give lectures in foreign universities abroad to get knowledge, and experiences.
- Updating the scientific topics.
- Matching the topics with other universities.

## D. *The role of teachers in curriculum design department*

- The scientific committee works hard for developing and control overall architectural and scientific topics.
- The senior staff used to update all the necessary issue, for curriculum, every year through there long experience and matching with other universities.

## E. *The role of Dean and Faculty Council in the design of curriculum*

- The dean and the college council used to analysis and discuss all the important instruction for the development of the curriculum.
- They put restrict parameters for the updating and development of them.
- They insist on using new attitude for the updating and relay on long experience and matching opportunities and put it goals for scientific development of the college.

# CRITERION 7: FACILITIES

## A. Space

AR Department faculty and students have sufficiently adequate (with minimum requirements) facilities available for conducting a successful program. These facilities include several classrooms, laboratories, workshop, faculty offices, department library, and network access facilities. We have one large (50 chairs) meeting and conference room, equipped with computer integrated projection equipment (LCD and/or Data Show). Also a break room equipped with sufficient requirements. The network access facilities are provided by the Computer Center of Baghdad University in form of a Wireless LAN network available in all university buildings. Only 3 terminals are available now in the department.

### ☐Faculty Offices

The faculty offices are located in the same building of the department. Most of these offices are for two faculty members each, and some are for three members. The offices have adequate furniture, but they are not air-conditioned and not equipped with computers or network connection. It should be noted, though, that the faculty offices are small in size such that they are inadequate to hold a discussion between the faculty and more than 2-3 students. The average faculty office space is about 10 square meters.

### ☐Classrooms

They were equipped with blackboards, and some with whiteboards, as the main tool for lecture presentation. They were lake the network or high resolution projectors which can be used to deliver electronic class notes and perform in-class demos and presentations.

### ☐Laboratories (Working Studios)

AR department contains many laboratories and workshops which includes many devices and equipment used to conduct the experimental tests by undergraduate students and it is helpful to conduct the architects' projects by the fifth class students, in addition to the ability of using many of them to achieve different tests and other works to the government establishments, private sector, postgraduate students and researchers generally. Table (7.1) provides the classrooms types and sizes and the number of students the classroom can accommodate.

| Hall no. or name | Activity | Type | Subjects | Area (m2) | Max. no. of students |
|---|---|---|---|---|---|
| **Free Hand Drawing** | Drawing | practical | Arc 103, Arc 203 | 162 | 60 |
| **Computer Lab.** | Working & | Theoretical & | GS 107, GS 208, GS 308 | 162 | 60 |

| | | | | | |
|---|---|---|---|---|---|
| | Lectures | practical | | | |
| **180** | Lectures | theoretical | Arc 105, GS 106, GS 108, GS 109, GS 110, GS 209, Arc 205, Arc 206 | 108 | 60 |
| **202** | Working & Drawing | practical | Arc 101, Arc 102, Arc 302, | 162 | 60 |
| **101** | Working & Drawing | practical | Arc 101, Arc 102, Arc 204 | 135 | 60 |
| **270** | Lectures | theoretical | Arc 104, Arc 207, CE 303, | 81 | 60 |
| **102** | Working & Drawing | practical | Arc 201, Arc 204, Arc 202 | 162 | 60 |
| **280** | Lectures | theoretical | Arc 204, Arc 302, Arc 305, Arc 308, Arc 304, GS 309, GS 307, Arc 306, Arc 310, Arc 406, Arc 407, Arc 408, Arc 409, Arc 405, CE 410, Arc 504, Arc 507, | 108 | 60 |
| **204** | Working & Drawing | practical | Arc 202, Arc 302, | 135 | 60 |
| **103** | Working & Drawing | practical | Arc 301, Arc 402, Arc 403, Arc 401, | 162 | 60 |
| **104** | Working & Drawing | practical | Arc 301, Arc 402, Arc 403, Arc 401, | 162 | 60 |
| **290** | Lectures | theoretical | Arc 404, Arc 411, Arc 505, Arc 508, Arc 509 | 81 | 60 |
| **201** | Working & Drawing | practical | Arc 501, Arc 502, | 135 | 60 |
| **203** | Working & | practical | Arc 501, Arc 502, | 162 | 60 |

| | | | | | |
|---|---|---|---|---|---|
| | Drawing | | | | |
| **Mohammed Makkia's Hall** | Lectures | theoretical | Arc 503, Arc 506, | 135 | 50 |

## ❑Libraries

The students can have access to three libraries as follow:

**Department's Library**: offers services to the students, faculty members and engineering staff of the department. It was also accessible to students and researchers from other departments in the college, from other colleges inside or outside the university, and for researchers from various state offices and ministries. The library has the following facilities: Area of the library (**48 m2), 420 Books, 250 Periodical, and 435 P.G. Theses and dissertation, 200 B.Sc.**, Graduation Projects, 150 B.Sc. Students' Seminars, 75 CDs, 2 Internet Access Terminals, About 50 Title and 7000 books in the free bookshop as a textbooks for undergraduate students.

**Department's Library**: Library of Engineering College is the oldest scientific libraries in the University of Baghdad. It was established in 1941, and then developed well in the later years to become mother libraries in engineering that contains more than (74901 books) and (1450 periodicals titles). It is offers services to the students, faculty members, and researchers from inside and outside the college. Lastly, the library finished the documentation of all books, periodicals, theses and dissertations in a complete data base to facilitate the accessing process for students and researchers. The library continuously organizes and / or participates in book fairs.

## B. Resources and Support

### B.1 Computing Resources

As stated above, network access facilities are provided by the Computer Center of Baghdad University in the form of a Wireless LAN network available in all university buildings. Only 10 terminals are available now in the department. Both faculty and students can access the network.

### B.2 Laboratory Equipment Planning, Acquisition, and Maintenance

One of the challenging problems encountered is the lack of laboratory equipment and instrumentation in labs, in spite of considerable progress achieved by the department in this area in the last year. AR Dept. continuously addresses any upgrades/additions for labs by estimating yearly budget needed that submitting to college and university. The full process used to determine the department lab budget is divided into two levels:

### College and university level:

At the end of each fiscal year, the planning committee is required to review the needs of major equipment and PCs of all academic colleges and departments make consolidated recommendations for the allocation of an appropriate budget for the next fiscal year. A memo will be sent to all the academic colleges/departments by the chairman (head of the department) of the university planning committee before the end of every fiscal year requesting them to prepare their lists of major equipment and PCs for labs to be procured during the following fiscal year. A standard form is provided to all the departments to fill their lists of major equipment and PCs for labs.

## Department level:

The Head of the labs committee in the AR is used to send a memo to all the faculty and lab supervisors to prepare the list of major equipment for all the labs to be procured during the present fiscal year. The lists of items required be prepared for providing appropriate information (Item description, quantity, estimated unit cost, Total amount, Priority, justification ...etc.). These form the basis for future lab budget allocations and justifications. The objective is to upgrade/enhancement of lab facilities is to:

- Support lab experiments, students senior design projects, course projects, and PG thesis and dissertation work.
- Support the conduct of newly proposed lab experiments.
- Support setting up of new labs proposed in the emerging areas.
- Support faculty research.
- Remove obsolescence (i.e., Modernization of the labs).

The laboratory equipment planning, acquisition, and maintenance processes are adequate with minimum requirements for achieving the program outcomes AR Dept.

| ***Types of Facilities*** | ***number*** | ***necessary instruments*** | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | *Croak board / unit* | *Green board/ unit* | *White rolled up screen / unit* | *White board / unit* | *LCD / unit* | *Data Show / unit* | *Computer / unit* | *Scanner / unit* | *Printer / unit* | *Plotter / unit* | *Sound System / unit* | *Air-Conditioning unit / unit* |
| ***studios*** | 8 | 10 | 1 | 1 | 1 | 1 | 1 | - | - | - | - | - | 2 |
| ***lecture hall*** | 1 | - | 1 | 1 | 1 | 1 | 1 | - | - | - | - | 1 | 2 |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***classrooms*** | 5 | - | 1 | 1 | 1 | 1 | 1 | - | - | - | - | - | 2 |
| ***Computer Lab.*** | 2 | - | 1 | 1 | 1 | - | 1 | 17 | 2 | 1 | - | - | 1 |
| ***Acoustic lab.*** | 1 | - | - | - | - | - | - | - | - | - | - | 1 | - |
| ***Model workshop*** | 1 | - | - | - | - | - | - | - | - | - | - | - | - |

**Note**

*New instructions are obtained for providing all classrooms and studios with LCD.*

# CRITERION 8: INSTITUTIONAL SUPPORT

## A. Program Budget Process

AR Dept. budget is part of the overall College of Engineering budget. Table (8.1) below details the budget allocated to exchange department for fiscal year 2011

Table (8.1): Department Expenditure (fiscal year 2011)

| No. | Paragraphs on the financial aspect. | Amount in Iraqi Dinars |
|---|---|---|
| 1 | Total budget allocated to the department. | 2368153152 |
| 2 | Total salaries of teachers in the department. | 1596555275 |
| 3 | Total salaries of employees in the administrative and auxiliary services. | 635029627 |
| 4 | Total wages additional lectures charged by faculties. | 46816000 |
| 5 | Total funds allocated for maintenance of buildings and equipment. | 28706250 |
| 6 | Sum of the amounts allocated for equipment, materials and supplies. | 54026500 |
| 7 | Total funds allocated for the purchase of books and periodicals and references | - |
| 8 | Sum of the amounts allocated for conferences and seminars. | - |
| 9 | Sum of the amounts allocated for the purposes of scientific research and graduate studies. | - |
| 10 | Sum of the amounts allocated to the training of teachers and employees in the administrative apparatus. | Within the financial Assignments to the University Within the financial assignments to the University |
| 11 | Sum of the amounts allocated to the purposes and other expenses such as exhibitions, ceremonies and other. | Within the financial Assignments to the University Within the financial assignments to the University |
| 12 | Sum of the amounts allocated to the workshops and labs. | Within the financial Assignments to the University Within the financial assignments to the University |
| 13 | The total amounts allocated to student services. | - |
| 14 | The total amounts allocated to scientific dispatch. | Within the financial Assignments to the University Within the financial assignments to the University |
| 15 | Total funds allocated for the purchase of textbooks. | 7019500 |
| 16 | Sum of the amounts allocated to incentives and rewards. | |

## B. Sources of Financial Support

University of Baghdad and its colleges are supported from government institution, with the entire budget coming from the Iraqi government. It also receives some grants and gifts from some state offices, institutions, from some international organizations and civil society organizations. However, such contributions amount to only a small fraction of the government allocations. Thus, the main source of departmental financial support is from government allocations. Additional sources of departmental financial support come indirectly from faculty funded research grants, experimental tests made in some laboratories for various state organizations, and industry consultations. All these activities are covered by the Central Cooperation Architectural Committee of the university, which is working according to the law of cooperation.

## C. Inadequacy of Budget

The AR Dept. has great shortage and inadequacy in budget to continue updating and enhancing the labs, to achieve its program's outcomes, and to support the faculty's teaching and scholarly activities.

## D. Support of Faculty Professional Development

As stated in the Faculty Development article in Criteria 6, the faculty professional development efforts represent a prime objective of the department, college and university administrations and are manifested in the following two areas:

1. Academic Development, which is administered by the Ministry (R & D Office in the MOHESR), College and University.
2. Research Development, which is administered also by the Ministry (R & D Office in the MOHESR), College and University.

Funding allocated is inadequate for the needs of both lines. Accordingly, both planned activities and allocated funding are inadequate for the faculty professional development.

## E. Support of Facilities and Equipment

The allocation of office space and laboratory facilities is the responsibility of the college and university with suggestions and recommendations from the department. On the other hand, the scheduling of classrooms is the responsibility of the department.

College maintenance department is responsible for all maintenance related. The college maintenance department accepts maintenance requests from the departments through written orders. In general, the support of facilities and equipment is inadequate to achieve program's outcomes in a perfect manner.

## F. Inadequacy of Support Personnel and Institutional Services

AR Dept. has one unqualified secretary to assess the department in all Administrative aspects. Similarly, the department relies on the college Network/Computing services group for support on computing and networking facilities.

The department has no engineer or technician to supervise the tasks of running, maintaining, and upgrading the various teaching and research laboratories at the department. Accordingly, the aforementioned personnel resources are inadequate to meet the program's outcomes. Furthermore, the department and faculty rely heavily on some resources and support facilities provided by the college and university. These include: Electronic Computer Center of the University, Purchasing Committees in both college and university, Maintenance Department in the college, College Library, Central Library of the University.

With respect to the college and university libraries, both contain a good collection includes books, periodicals, proceedings, theses, reports, maps, charts, electronic resources, and audiovisual materials. The libraries provide assistance to the faculty and students in their search for information and library materials.

# CRITERION 9: SCIENTIFIC RESEARCH

## A. Introduction

Scientific research and teaching are interdependent and interacted. Teaching and scientific research was a dialectical unit. Teaching is the basis of scientific research, scientific research contribute to the development and upgrading of teaching. From the teacher point of view, engaged in scientific research activities is the most important way to improve their own academic standards and research capabilities. The updates of textbook content, the experiences and methods, are all contributed to the process in the scientific research.

Scientific research plays a vital role in passing contemporary knowledge onto the student. This is a relationship where the excitement of engaging with the development of the knowledge base of the discipline itself contributes to student learning.

The Department of Architectural Engineering linked financially with the College of Engineering, and the college financially linked with the University of Baghdad, which is in turn linked with the Ministry of Higher Education and Scientific Research.

## B. Inadequacy of Budget for Scientific Research

The AR Dept. has great shortage and inadequacy in budget required for scientific research. Financial allocations are usually limited because of the limited budget of the college. The funding allocated to the department is inadequate, especially in the following aspects:

1. Purchasing of laboratory equipment and set up advanced laboratories.
2. Development of teaching aids.
3. Send faculty members to advanced countries, participation in training programs in order to keep pace with scientific development in those countries.
4. Financial support for publishing abroad or participating in International Scientific Conferences.
5. Support the researches of postgraduate students (M.Sc. & Ph.D.) in purchasing equipment and instrumentations and constructing their test rigs, or help them in the cost of analysis (numerical resources).
6. Holding Conferences, Symposiums, Seminars, Workshops….. etc.
7. Purchasing of modern books and journals.

## C. Samples of Scientific Researche Activities

The scientific research of the AR Dept. faculty includes wide range of activities inside and outside Iraq. The following is a very brief and rough statistics for the sum of the scientific research activities of all faculty members of the department during the academic year 2011 –2012:

- Publication (and acceptance of publication) of about 62 researches in Iraqi Journals.
- Publication (and acceptance of publication) of about 20 researches outside Iraq.
- Holding the 2nd Scientific Conference for Students Researches and Activities.

- Holding about 10 Scientific Symposiums and workshops.
- The number of participations and presence in Symposiums and Conferences inside Iraq was about 200.
- The number of participations and presence in Symposiums and Conferences outside Iraq was about 23.
- Holding about 25 Seminars for postgraduate (M.Sc. & Ph.D.) students.
- Evaluation of more than 211 research papers a patent for various journals inside and outside Iraq.
- Completion of 18 M.Sc. Thesis in the department.
- Completion of 1 Ph.D. Dissertations in the department.
- Evaluation of 18 M.Sc. Thesis (from outside the university).
- Evaluation of 3 Ph.D. Dissertations (from outside the university).
- Examination of 50 M.Sc. students in their Thesis (from inside and outside the university).
- Examination of 6 Ph.D. students in their Dissertations (from inside and outside the university).
- Supervision of 38 M.Sc. students (from inside and outside the university).
- Supervision of 13 Ph.D. students (from inside and outside the university).
- Offering about 40 consultations to various state offices and ministries and private sector.
- Promoting a number of the teaching staff, 1 to the degree of Professor, 1 to Assistant Professor and 4 to Lecturer.
- One of the faculty staff has been awarded a sabbatical year at Auburn University in USA.
- Participation of a number of faculty staff in training courses inside and outside the country.
- A number of faculty staff contributed in giving continuous learning courses to the engineers of state offices, about course.
- 6 postgraduate students were sent outside the country in research scholarships to finish the experimental part of their work.
- A number of M.Sc. and Ph.D. researches were supported by various state offices and ministries and private sector. The support is either financially (vary rare) or by helping the students in using equipment, materials, analysis devices and others.

## *D. SWOT Analysis*

| ***Strengths*** | ***Weaknesses*** |
|---|---|
| 1. Positive reputation of the graduate and get jobs, summer training for students in government departments and their positive impact, the work of documentation of heritage buildings and historic summer work according to the requirements of the different phases, graduation projects and its relation to the requirements of government departments and development plans for reconstruction.<br>2. Accumulation of experience for more than half a century and a multiplicity of attached educational, scientific and security subjects. | 1. The need to expand the number of the drawing workshops.<br>2. The need to expand the network of the Internet.<br>3. The need to increase interest in gardening and to provide entertainment opportunities for the student.<br>4. The need to expand research programs to support students and the resources allocated to it. |

| | |
|---|---|
| 3. The protocol of cooperation with government departments and other universities to support graduate research (master's and PhD) and agenda of understanding of the same ways, in addition to providing consultancy to government departments and the private sector.<br>4. Success rates ranged from good to very good (six years) earlier.<br>5. Coordination between the requirements of the campus academic, scientific and educational with the faculty and their potential career with the available.<br>6. Programs to support students through the care and honor outstanding students and supervising research projects, plans and programs of the summer training and development of research projects of them.<br>7. Develop Infrastructure and the level of services of the department such as a lighting system, water, services and system of computers and the Internet and telecommunications.<br>8. Relationship education, science and ongoing follow-up to it.<br>Nominate outstanding students to participate in workshops and programs for youth leader workshops, according to the agenda of cooperation with German universities and with the support and funding of the DAAD and the participation of a number of Arab universities, including the (University of Aleppo, Cairo University, American University of Beirut, University of Damascus), as has participation in the workshop work in Germany (University of technological Brandenburg, the city Cottbus) for PhD students and one in Aleppo University and master's students for the initial stages, and the other in Germany (2011-2012) for master's and doctoral students. Was also nominated for a number of students in the initial stages to participate in the program of student leaders, according to the U.S. universities and send a number of students graduating, according to the fellowship program and the missions of the universities in the world.<br>Students participate in seminars, workshops and exhibitions that would strengthen the language of dialogue and interaction.<br>11. Match standards of scientific programs on the functional and spatial luxury and services to the department within the university compound.<br>12. Different size of class, halls and drawing workshops as required by the weekly schedule of lessons and the educational system in the section according to international standards. | |

| | |
|---|---|
| 13. Department building is subjected to maintenance and perpetuation, and it is part of a modern university complex is designed according to the standards and is subject to future expansion.<br>14. Learning environment is Enjoyed the positive social relationship subject and to standard security parameters.<br>15. There is a health center, sports faculty and students hostels with a cultural center to contain art exhibitions and theater events for the student. | |
| ***Opportunities*** | ***Threats*** |
| 1. Holding international protocols and co-operations with universities in the world, according to what has been with the German University of Brandenburg technological universities and one of Italian and French universities.<br>2. Preparation and participation workshops and seminars with Arab universities.<br>3. Participation and preparation for workshops and seminars for curriculum development and thematic topics with other local universities (Nahrain / technology / Mosil / Basra / Babel / Kufa / Sulaymaniyah / Erbil).<br>4. Expansion of participation in scientific meetings and forums, literary, artistic and organizing exhibitions and hosting specialist field of architecture and art inside and outside Iraq.<br>5. Contribute to the advisory services of the future expansion projects at the University of Baghdad.<br>6. Curriculum development compared with those in the Arab and international universities and developed in accordance with the requirements of the field work, community service and local realities<br>7. Development of postgraduate studies (Masters and PhD) and research activity of the teaching staff.<br>8. Communicate with the world in the development of curriculum and the success of research in publication and international journals.<br>9. The usage of modern means of presentations and advanced technologies in the presentation of lectures and provides the halls and laboratories with modern equipment and advanced.<br>10. Increased focus on the development of external spaces and places of rest and the development of green spaces and water areas and shaded places to relax and entertain students.<br>11. The development of cultural relations between students and teaching staff and upgrading the educational aspect links with social, educational and literary. | 1. University of Baghdad, like other universities are supported financially by the Government and Education is free for students.<br>2. Absence of a plan for distance education via the Internet will be included within the medium-term future plan.<br>3. Increased government oversight and public input and output of university education.<br>4. Remove focus and diagnosis of physical and moral achievements of the university.<br>5. Negative social reaction.<br>6. Compete with other universities for the same city.<br>7. Negative reaction of the students because they consider education as a means of slow to earn a living.<br>8. Negative evaluation of the source material. |