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**1. INTRODUCTION TO THE PROGRAM**

**1.1 History and Description of the Institution**

Abdulaziz Al-Saud who was proclaimed King in 1932, laid the foundations for modernizing his Kingdom, when he established an educational system in response to the educational and professional needs of a young nation. King Saud University remains loyal to the Arab and Muslim cultures that have made Saudi Arabia such a unique nation. The University holds dear all human values, where faith and reason inspire the truth and goodness, which are prerequisites for the pursuit of knowledge. It is committed to the highest standards of academics and research, and strives to maintain an open, ethical and caring community that promotes honesty, integrity, respect, fairness, trust, civility and diversity. King Saud University possesses an educational culture that emphasizes intellectual vitality, academic freedom, and the extension of its services and prosperity to benefit the local, national and regional communities.

Prince Fahd, the first Minister of Education who would eventually become the Saudi King himself, announced the establishment of the first Saudi University to be the most prominent house of culture and sciences and be worthy of a country where the light of Islamic faith and civilization emanated. King Saud University, the Kingdom’s pioneer institute of higher education, was subsequently opened in Riyadh in 1957. His Majesty’s immediate concern was to build this Saudi university with all its colleges, institutes and laboratories according to the highest of standards. Since that time, King Saud University has gone through many stages of developments and its administrative organization has developed and adapted according to the diverse needs and expanding role of the nation.

King Saud University was established in order to: “Disseminate and promote knowledge in our kingdom for widening the base of scientific and literary study, keeping abreast with other nations in the arts and sciences and for contributing with them discovery and invention”, in addition to reviving Islamic civilization and articulate its benefits and glories, along with its ambitions to nurture the young virtuously and to guarantee their healthy minds and ethics.”

In 1961-62, women were admitted into the College of Arts and College of Public Administration. The education of females continued both at the undergraduate and post graduate levels, mostly under the Humanities Department and Department of Science and Medical Studies, in two separate women’s campuses.

By Royal Decree (1961), King Saud University was granted independent status with its own budget, and the Minister of Education was appointed the Rector of King Saud University, while the administrative positions of Vice Rector and Secretary General were established and each College and institute was required to have a Dean, a Vice-Dean, and a university Council. Control over the Colleges of Engineering and Education, having been under the Ministry of Education in cooperation with UNESCO, is assumed by the University in 1965.

The present King, HRH King Abdullah bin AbdulAziz Al-Saud, The Custodian of the Two Holy Mosques, gives his utmost priority in developing education for the people of the kingdom. Since his accession to the throne 6 years ago, the number of universities in its various stages of completion, has tripled from 8 to 24 and well spread out in the kingdom. For the current year HRH King Abdullah allocated 150 billion SAR for education, of which 9 billion SAR is designated for King Saud University.

According to the Times Higher Education – QS World University ranking, King Saud University is recognized as the top university in the Arab world, and one of the best 300 universities in the world.

The Institute of Higher Education of Shanghai Jiao Tong University lists King Saud University (KSU) as one of the top 400 universities in the world, in its 2010 Academic Ranking of World Universities (ARWU).

Also according to the Webometric research completed by the Conseco Superior de Investigatigaciones (CSIC), King Saud University ranks first in the Arab world and 18th among all Asian universities and the 164th worldwide with regard to visibility and impact.

In 1967, the Architecture Program was founded under the umbrella of the College of Engineering as one of its departments, to become the first academic institution for architectural education in the Arabian Peninsula. In 1984, the College of Architecture and Planning was established and the Department of Architecture moved into these new facilities, and becomes independent from the College of Engineering. King Saud University continues to expand its campus and continues to establish new colleges while developing facilities to link-up its research centers with related industries.

The language of instruction is Arabic. However, all students at King Saud University are required to complete sixteen credit hours of English Language in the ENGLISH 140 & 150 courses of the Preparatory Year.

**1.2 Institutional Mission**

The following text is from the official mission statement of King Saud University adopted 2010.

**"Vision:**

To be a world-class university and a leader in developing Saudi Arabia’s knowledge economy.

**Mission:**

To provide students with a quality education, conduct valuable research, serve the national and international societies and contribute to Saudi Arabia’s knowledge economy through learning, creativity, use of current and developing technologies and an effective international partnership.

**Values:**

Based on our Islamic and traditional cultural values, we strive for:

* **Quality and Excellence**

We hold our values according to extremely high standards, honoring lofty ambitions and the pursuit of excellence through a commitment to the rigorous intellectual standards in teaching, learning and innovation.

* **Leadership and Teamwork**

We are committed to promoting individual and institutional leadership roles, which drive social development, professionalism, responsibility, and innovation. Collaboration and cooperation are recognized as necessary means of attaining excellence.

* **Freedom of Inquiry**

Rigorous and honest intellectual exploration is fundamental to our academic traditions, and reflected in every facet of scholarship at King Saud University.

* **Fairness and Integrity**

We abide by the principles of social justice, equal opportunity and cultural diversity, holding members of our community to the highest standards of honesty, respect, and professional ethics.

* **Transparency and Accountability**

We are committed to openly placing our scholarly ideas and works for society and scholars to judge. In our pursuit of excellence, we hold everybody in our community accountable for respecting and upholding our values in all forms of their scholarly activities.

* **Lifelong Learning**

We are committed to lifelong learning inside and outside the KSU community, ensuring continued intellectual growth and welfare of society.

**Strategic Objectives:**

1. Establish excellence in all fields of scholarship and research;
2. Maintain a distinctive faculty possessing the highest credentials and abilities;
3. Provide graduate students with the best education and opportunities that will enhance their knowledge, skills and relevant experience;
4. Building bridges locally, nationally and internationally;
5. Provide a supportive learning environment for faculty, staff and students;
6. Ensuring a sustainable environment for the pursuit of excellence;
7. Establishing flexibility and accountability.

**1.3 College History:**

In 1967, the Department of Architecture and Building Sciences was founded as a department in the College of Engineering. King Saud University became the pioneering academic institution for architectural education in the Arabian Peninsula. The department continued to develop and expand in terms of student population and faculty members, as well as the development of study programs. In 1977 (1397H), a special committee of experts in the field of Architecture and Planning was formed to seek and develop an academic program for an independent College of Architecture and Planning. However, in a Supreme Declaration No 7/2061/m that was issued on 2/4/1984 (30/06/1404), the College of Architecture and Planning was hence established as an independent college within the University. The special committee of experts accomplished its mission and its report was approved by the University Council on 4/4/1984 (03/07/140H).In 20/01/1985 (29/04/1405H),in its first session, the University Council issued a decree to change the college's name to the College of Architecture and Planning, and the Department of Architecture and Building Sciences as one of its departments.

In its 44 years of existence, the College of Architecture and Planning has played an important role in architectural education in the Kingdom of Saudi Arabia.

**College Mission:**

Provide distinguished education and creative research to serve the profession and society in the field of the built environment.

**College Vision:**

Achieve worldwide eminence in developing knowledge the field of built environment.

**Proposed Strategic Objectives**

1. Quality and distinction in the fields of Architectural and Planning education.
2. Enhance the qualifications and abilities of graduates.
3. Achieve an educational environment conducive to learning.
4. Enhance the abilities of academic cadre.
5. Develop an efficient administrative system.
6. Achieve partnership with the society.

**Proposed Values:**

1. Creativity.
2. Quality.
3. Distinction.
4. Honesty.
5. Leadership.
6. Group work.
7. Professional ethics.

**STRATEGIC PLAN OBJECTIVES**

1. **Quality and distinction in Architectural and Planning education**

- Develop common curricula for Academic Departments (Urban Design)

- Participation by Faculty in professional practice

- Academic accreditation of Academic Departments

- Keep abreast with developments in modern learning techniques

- Host distinguished experts and visiting professors

- Recruit distinguished Faculty

1. **Enhance the qualifications and abilities of graduates.**

* Education accreditation for programs.
* International training programs.
* Academic programs
* Emphasis on learning and research skills for students.

1. **Achieve an educational environment conducive to learning**

- Utilize space in the College building for the educational process

- Fit out the library, labs and studios with modern installations

- Host specialized exhibitions and hold symposia and workshops

**D. Enhance the abilities of academic cadre.**

-Multiplicity in the faculty expertise

- Participate in professional competitions

- Participation by Faculty in professional practice

- Recruit distinguished Faculty

- Encourage Faculty to attend workshops for skill development

**E. Develop an efficient administrative system**.

- Enhance the qualifications of administrative staff through training programs

- Programs for incentives and promotion

- Achieve ISO standards

**F. Achieve partnership with the society.**

- Participate in the Deans Council GCC

- Participation by Faculty in professional practice

- “Al-Umran Saudi Association” Headquarters and members of Board

- Establish College Advisory Board

- Cooperation Agreements with institution in the society

- Secondment of faculty members and Consultations

- Jury of projects and feasibility studies

**1.4 Program Background**

The architectural program was initiated and designed from a survey done by a committee that reviewed the architectural programs in the United States and came up with the architectural program for King Saud University. Being the pioneer school of architecture in the Arabian Peninsula and in the Gulf region, its graduates represent the leading generation of architects and planners who participated in the establishment of a number of schools and colleges of architecture in the Kingdom and in the Gulf Region.

In the program of Architecture and Building Sciences, there are 50 faculty members (Professors, Associate Professors and Assistant Professors) who are holders of PhD degrees in architecture from prestigious world universities. They all participated in securing several research projects and grants to the department in particular, and to the college in general. A number of them were delegated to governmental and private institutions to assist in the national development and serving the society.

The Architecture and Building Sciences Program awards the Bachelor of Architecture Degree upon successful completion of 170 credit hours in its study plan, and two months of field training. The program also offers a Master of Architecture program (30 credit hours), as well as a Doctor of Philosophy degree program (16 credit hours).

- Since the program was initiated, the Bachelor of Architecture program at KSU was continuous over 5 year duration, which is the internationally accepted norm for architectural education, with an additional period of office experience.

- In the current period, the Bachelor of Architecture program at KSU still has duration of 5 years, but the first year is a foundation year in which the student takes courses of university requirement and basic communication skills and the architectural courses are distributed in the following 4 years.

The architectural program has specialized units that support the study programs and student and faculty work, these units may be classified as follows:

1. Research and Documentation Centre: this includes a research center, consulting unit, housing unit, information and documentation unit and an architecture and building science research station.
2. Laboratories and workshops: These include design studios, computer-assisted design and drawing labs, photographic lab, structure lab, building materials and construction lab, an acoustic, light and thermal lab, an environment and transportation studies lab, a model making workshop, and a virtual reality lab.
3. College Learning Research Center (CLRC): The college library contains about 8000 books and journals. This library is supported and connected electronically with the University central library.

**VISION**

The Department of Architecture and Building Sciences should be the reference for implementation of contemporary methods of architectural education, professional practice and research for community service. As a leading program of architectural education in the Kingdom and the region, the Department of Architecture and Building Sciences adopts an educational strategy based on the following:

* Keeping abreast with advances in the age of information and knowledge. This is achieved through introduction and use of computer technology in the educational process, and training students and staff to use such technology.
* Keeping abreast with advances in the field of building technology. This is made through the maintaining the relation between academic qualification of the graduate and the advancements in the building industry.
* Maintaining the values of Saudi culture and community traditions through preserving the natural environment and architectural heritage. This is achieved by student gaining skills of analysis, and deduction of the needs of Saudi community.

**MISSION:**

Being a distinguished architectural school of thought respecting the values and principles of Islam, the department is seeking the leadership role in the field of architectural education in the region. The department seeks to provide the appropriate environment for learning and research, as well as advanced resources to serve the community and promote indigenous contemporary architecture.

**OBJECTIVES:**

Through the vision and mission of the department, a number of objectives can be identified. These are:

**First: General objectives**:

* Strengthen and preserve Islamic values and the ethics of architectural profession within the students.
* Help promote the standard of Saudi built-environment.
* Provide students with high levels of knowledge and professional skills in all areas of architecture and building science.
* Link architectural education and scientific research to professional practice and building industry sectors.

**Second: Academic plan objectives**:

1. Graduate qualified architects, both professionally and academically, who possess the following skills and abilities:

* **Creativity**: in research, programming, design, and skill in contemporary architectural and urban expression.
* **Originality**: in preserving the cultural and architectural heritage and the local natural environment.
* **Adaptability and Development**: the ability to keep abreast with developments in this age of information and the adaptive use of new technology.
* **Leadership**: excel in decision making during the various stages of design and the management and supervision of construction and urban projects, and the ability to resolve contemporary professional issues.

1. Undertake research and studies in the field of development of architecture, building industry and urban environment.
2. Offer professional architectural services to various institutions of the society.

The department has adopted four concepts which will eventually promote implementation of the academic plan and raise the standard of its graduates. These are:

**First**: Flexibility in the educational system: This is important to cope with fast advancements in this age of information and communication, as well as future technologies.

**Second**: Emphasis on concept of quality assurance and excellence in learning, and ensure a balance between quality and quantity in architectural education.

**Third**: Develop ingenuity and creativity in education by emphasizing positive concepts of education and positive response to contents of courses.

**Fourth**: Strengthen and refine our existing curriculum to more effectively integrate and link the various components while simultaneously nurturing ongoing innovation and a pluralism of perspective in studio and classroom.

**1.5 Program Self-Assessment**

The architecture program has conducted a continuous self-assessment to ensure that the department goals are met in order to raise the standards of its graduates taking into consideration the four concepts stated above.

**1.5.1 Strengths and Accomplishment**

Based on the Self-Assessment evaluation the program has attained strengths which resulted in the achievement of a better educational environment. These strengths are illustrated as follows:

* 1. **The program is the oldest and the leading architecture program in the region**.

The program of Architecture and Building Sciences was the first program in the Arabian Peninsula and the Gulf Region. Its graduates represent the leading generation of architects and planners who participated in establishing schools and colleges of architecture in both the Kingdom of Saudi Arabia and the Gulf Region. The Program graduates are now undertaking top positions in their fields at both government and private sectors.

* 1. **The program has advanced physical resources**:

The education environment and facilities in the new college building, with its ample spaces and infrastructure such as students working stations in the studios, class rooms, laboratories, workshops, reading rooms and research center, are furnished with advanced technological facilities which generally satisfy the specification standards for achieving an optimum educational environment.

**c) Faculty members and teaching staff**

The number of faculty members and teaching assistants and their ratio to students, as well as the scope of their specialization, is excellent compared to similar programs at both national and regional levels. In recent years a tangible improvement in the number of students admitted coupled with the growth in the number of teaching staff maintained the staff/student ratio at 1:10 to 1:12 which is considerably high compared to International standards. Moreover, faculty members and teaching assistances are characterized by diversity in specialization, professional and cultural backgrounds with different schools of thoughts.

1. **Supportive Financial Resources:**

The program is highly supported financially by the University. This can be illustrated in terms of faculty hiring, furnishing studios and labs with the latest technological facilities, inviting visiting professors from abroad and supporting the training program for the students to different countries each summer. The training program includes Italy, Germany, Turkey, France and Malaysia.

Also, the program has its own means of raising funds from different sources, first; projects and consultancy services, second; from institutions that have strong relations with the architecture program; third, from the academic and research center whereby the program has two chairs for research, one in Housing and the other in Architectural Heritage.

**e) The program has a strong connection and contribution in Community:**

The program’s contribution to society is through a number of activities. The Architecture and Building Sciences department is the founder of the Al-Umran Saudi Association and, in addition, supports the Saudi Council of Engineers. Moreover, a number of its senior faculty members are delegated or seconded to leading governmental and private institutions, and participate in the development of the society.

The program played a pronounced role in the design and setup of exhibitions at various levels at the University. The program has participated successfully and played its mission in serving the local and regional community. It has participated and won the first prize in two main international competitions, the first was the design of a group of hotels in Medina and the second competition was the Grand expansion of the Holy Mosque by King Abdullah bin Abdulaziz in Mecca. The department has also participated in many other competitions and most of the faculties also work as consultants for both private and public agencies.

The program has also participated in serving the community through its research center which encourages faculty members to serve the community by their research contributions in different areas of the Kingdom development. Research activities are mainly concentrated in indigenous architecture, urbanism and affordable housing.

**f) The Program has remarkable Connections with Local and Regional and International institutions:**

The program has connection with local, regional and international institutions. Faculties from other architectural programs inside the Kingdom of Saudi Arabia and the Gulf Region universities are invited to attend our school juries and vice versa. Visiting professors are also invited from Europe and US for up to three weeks giving lectures, attending design studios' and reviewing the program. The program initiated and support student’s professional training programs both inside the Kingdom and abroad. Training programs to Germany, Turkey, France, Malaysia and Italy are being conducted every summer to give students international experience and enhance their scope of thinking.

Since the last visit several MOU have been endorsed and signed between KSU and the following International organization: 1. Universitat Stuttgard. Germany, 2. OGER International – France, 3. Research Centre for Islamic History, Art and Culture (IRCICA), - Turkey, 4. University of Nebraska , 5.OAR, Rome, Italy, 6. IMM, Carrara – Italy. Another MOU with Colorado University is in the process.

**g) Strong Administrative Structure & Support**

The architectural program has a strong administrative structure in the form of Departmental Council headed by Chairman of the program. All matters related to the Architecture & Building Sciences program are decided through Departmental Council meetings which are held on a regular basis. The Departmental Council is governed by the College Council headed by the Dean of the College. The program has enjoyed strong support and attention from the Deanship and the Rector of the University. Upgrading the quality and performance of the program is one of the main concerns of both the college and university administrations.

**h) Attending Conferences and Meetings:**

The program encourages faculty members to attend conferences and meetings at local, regional and international levels without discrimination between native and expatriate staff. They all are financially supported equally to attend conference.

Also, the program has organized a number of seminars, workshops and symposiums. A number of international conferences were organized successfully and the last one was organized in January, 2010 titled Technology and Sustainability in Architecture. The conference was a successful international gathering.

**1.5.2 Challenges& Plans for Future Directions**

1. In preparation to face future challenges, a permanent self-evaluation committee was set-up to continuously monitor and assess the development of the program.
2. Setting up of documentation center for documentation of information and updating data to serve the process of evaluation and modernization.
3. Setting out a strategic plan to upgrade the educational resources in the program.
4. Adopting a plan to allow the program to appoint qualified supporting staff, both technical and administrative.
5. Consolidate the cooperation and community participation programs by developing the policies and methodologies of education in the department.
6. Promote the professional performance of teaching staff by providing avenues for professional practice to acquire technical skills.
7. Link the scientific research policies with the requirements of the community development.
8. Communicate with similar departments, both within and outside the Kingdom, in the field of scientific research and support the idea of 'local research'.
9. Maintaining high standards of teaching for the students.
10. Gaining recognition and Substantial Equivalency from the National Architecture Accrediting Board, (NAAB), to keep the architectural program at King Saud University as the leading program in the region.
11. Continue strengthening the cooperation and connection with both national and international architecture programs.

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**2.0 Progress since the Previous Site Visit**

**2.1 Summary of Responses to the Team Findings**

The NAAB Visit Two was conducted in December of 2011 by Mr. Morris Brown and Professor Fatih Rifki. The visit of the team and the entire accreditation was a most positive experience. The NAAB Visiting Team Report found that College of Architecture and Planning had six Conditions not Met inclusive of four curricular items.

**Responses to Conditions Not Met**

Conditions Not Met in the 2011 Visiting Team Report Consist of 2 conditions and 4 curricular items:

* Social Equity
* Administrative Structure
* 13.7Collaborative skills
* 13.13 Accessibility
* 13.19 Life Safety
* 13.24 Construction cost control

**Social Equity**

**Comment from 2011 NAAB visiting Team Report: *“****Within the cultural context of Saudi Arabia, the College does not adhere to all aspect of social equity. They do not accept females in the study of architecture of or on their staff. There was evidence that the college has a history of hiring male faculty from many different countries. Those from foreign countries report that they do not receive any discrimination in their salaries.”*

**Progress since the 2011 visit**

This issue has been clearly explained on page 19-20. Our program provides all faculty, students, and staff-regardless of race, ethnicity, creed, national origin, age, physical ability-access to a caring and supportive educational environment to learn, teach, and work within the cultural context of the kingdom for example;

- Depending on their performance, all faculty members and supporting staff, have the same

salaries and incentives, allowances of housing and schools for their children, attending

conferences, return tickets during official holidays and medical support.

-The program accepts students from different parts of the world but with certain percentages.

- The program accepts students of different physical abilities. Students with special needs are

supported by special facilities and requirements in the university and college spaces.

- In terms of mix education, it is related to the cultural understanding of our society. Females and males are given equal choices and facilities for education but each gender has its own separate environment. However, King Abdullah University for science and technology, in Jeddah, the second main city in the kingdom, gives mix education where females and males are education in one environment.

- In each major city in Saudi Arabia, there is at least one university giving Architectural program for female.

- At King Saud University, there a new large campus merely for female.

**Administrative Structure**

**Comment From 2011 NAAB visiting Team Report: *“****Because this is an overseas institution seeking substantial equivalency, this not applicable at this time.”*

**Progress since the 2011 visit**

We are in the process of being accredited by the National Council for Accreditation and Assessment. This council has been initiated recently and is being operated under the supervision of the Ministry of Higher Education for all universities in the Kingdom of Saudi Arabia. Selected experts in the accreditation from all over the world are participating in the National Accreditation process.

**13.7 Collaborative skills**

**Comment From 2011 NAAB visiting Team Report:** *“The visiting team was unable to find any evidence of interdisciplinary collaboration in the course offerings and thus in the student work presented. There were also no student outcomes from collaborative team work within the curriculum.*

**Progress since the 2011 visit**

This criteria is being covered in the design studios and some theoretical courses. In the design project, students work collaboratively until certain stages, such as programming, research and site analysis and then divided to individual work in the projects. However, since the beginning of this semester, we as professors are requested to put more attention on these criteria in both design and theoretical courses.

1) To add more visibility for the core issues in the design projects, it is more prudent to include a schedule, or checklist, or tables of the pertinent information regarding the project requirements and constraints. These information will reflect the compliance to the NAAB Students’ Performance Criteria that is required.

2) It is also suggested that students will have to show relevant information on the work specifically done in collaboration with the involvement of other parties.

3) The extent of the scope of the teamwork or group work, specific to the project to be shown and noted clearly, as separate sheets or in the schedule.

**13.13 Accessibility**

**Comment From 2011 NAAB visiting Team Report:** *“The visiting team was unable to find any evidence in course and studio outcomes that showed that students in the program were aware of the accessibility requirements found and enforced in Western societies, and thus none of these norms and requirements were incorporated in their work. In meetings with local practitioners, the visiting team learned that the country has no legislation similar to the ADA in the U.S., save for a limited number of caveats currently used in the issuance of building permits.”*

**Progress since the 2011 visit**

These criteria have been given important emphasis and professors of the design courses are well aware of to put stress on. Improved coverage in this area was addressed in revised course syllabi and assignment since the visit.

* **Courses concerned with this** **SPC** **as understanding primary evidence are:**

ARCH268 Landscape Architecture

ARCH 353 Principles of Urban Design

ARCH 357 Building Legislations

ARCH 411 Man & Built Environment

**And as ability primary evidence in courses**: (in levels four, five and six)

ARCH 350 Architectural Design- 3 (Environmental design)

ARCH 360 Architecture Design -4 (Urban Design)

**And as secondary evidence in all design studio courses that follows**.

* At the beginning of spring semester 2012 the program chair invited two specialized practitioners to give two lectures about “Accessibility in the built environment”:
* DVD’s of the lectures were distributed for all faculty and students of the program.
* DVD entitled “Universal Accessibility, Built Environment Guidelines, for the KSA 2012

(2 volumes) were distributed for all faculty and students of the program.

* A committee headed by program chairman was formed to review most of the studios and checked the fulfillment of the requirements for accessibility on several occasions during the semester.

Evidence for SPC for “Accessibility” could be found in student projects in NAAB visiting team exhibition room.

**13.19 Life Safety**

**Comment From 2011 NAAB visiting Team Report: “***The visiting team was unable to find evidence in course and studio outcomes that showed that students in the program were aware of the accessibility requirements found and enforced in western societies, and thus none of these norms and requirements was incorporated in their work. In meetings with local practitioners, the visiting team learned that the country has no legislation similar to the ADA in the U.S., save for limited number of caveats currently used in the issuance of building permits”.*

**Progress since the 2011 visit**

* The program chair called for a departmental council meeting asking all faculty members who are teaching design studios, to put more stress on life-safety systems basic requirements in buildings, with an emphasis on door swings and egress. And ask the students to submit a life-safety plan in their design projects as evidence for achieving these criteria.
* **Courses concerned with this** **SPC** **as understanding primary evidence are:**

ARCH 357 Building Legislations.

ARCH 411 Man & Built Environment

**And as ability primary evidence in courses**:

ARCH 350 Architectural Design- 3 (Environmental design.

ARCH 360 Architecture Design -4 (Urban Design)

**And as secondary evidence in all design studio courses that follows**.

* At the beginning of spring semester 2012 the program chair invited two specialized faculty and practitioners to give two lectures about Life-Safety Requirements:
* In all intermediate juries and discussions emphasis was given to Life-Safety requirements.
* Special grade was assigned to students achieving these criteria.
* A committee headed by the program chairman was formed to review most of the studios and checked the fulfillment of the requirements for life-safety in student projects on several occasions during the semester.
* Evidence for SPC for “life-safety” could be found in student projects in the NAAB visiting team exhibition room.

**13.24 Construction cost control**

**Comment From 2011 NAAB visiting Team Report: *“****This SPC is not addressed until the second semester of the fourth year in the curriculum, except peripherally in the building Materials Building Construction 1 course (ARCH 357). However the visiting team was unable to find evidence that there is any (or some) understanding of this criterion in any of the studio outcomes.”*

**Progress since the 2011 visit**

This criteria is being covered to some extent in the course of contract, quantities and specifications. In this course students are taught how to estimate building cost. Also, there is a new elective course titled, building economy. Part of this course, students will learn how to control the building cost.

In some part of upper levels of design studios, professors ask students to illustrate the initial cost of their projects.

In addition to the 2 courses stated above, issues related to construction cost control were also addressed in the following 3 higher level courses i.e. Contract, Quantities and Specification (ARCH 425), Project Management (ARCH 435) and Architectural Professional Practice.

Since the last visit, improvements to syllabus of these related courses were made to further strengthen student’s understanding and awareness of the importance of construction cost control. These were reflected in the revised courses descriptions included in Item 4.3 of this Architecture Program Report.

To ensure that student take into consideration aspects of cost in their design projects, vis-à-vis provide evidence of their understanding of this criterion in studio project outcomes, the use of a design checklist was formulated.

The checklist will serve as a quick reference to both students and faculty members that all matters of concerns were being given due consideration in their project outcomes.

**2.2 Summary of Responses to changes to the NAAB conditions**

As of this date there have been no changes in the NAAB Conditions or procedures for Substantial Equivalency adopted on March 1st, 2009



**3.0 The Thirteen Conditions**

**3.1 Program Response to the NAAB Perspectives**

**3.1.1 Architectural Education and the Academic Context**

The College of Architecture and Planning at King Saud University consist of two departments, the Department of Architecture and Building Sciences and the Department of Urban Planning. The former offers the Bachelor of Architecture program while the latter offers the Bachelor of Urban Planning program.

Since its initiation in 1967, the Architecture program was distributed over 5 year duration. In its current format the first year is a foundation year in which the student takes preparatory and university required courses whilst architectural courses are distributed in the subsequent 4 years of study. Students are awarded the degree of Bachelor of Architecture upon successful completion of 170 credit hours and two months of field training. The program also offers a Master of Architecture program (30 credit hours) as well as a Doctor of Philosophy degree program (16 credit hours).

During the 5 year study period architecture students, through required courses and individual electives, take full advantage of academic and other links between the program of Architecture and Building Science with the program of Urban Planning and several other colleges and programs in the University.

At the preparatory year level the students are required to take a total of 14 courses with a total of 43 credit hours, in the All-University Curriculum. These University-wide courses provide shared learning experiences for all students and the courses are taught by faculties from multiple disciplines and are intended to show the clear relationships among multiple disciplinary areas of knowledge. These shared learning experiences continue into the first four semesters of their architecture study plan where both architecture and planning students take 62 credit hours of common college required courses.

At the same time, students also take courses offered by the College of Engineering. Because of the history of the program of Architecture and its beginnings in the College of Engineering, our students are allowed to take engineering related courses in particular those offered by the Department of Civil Engineering. These are SE251 (General Surveying); CE265 (Structural Analysis); and CE378 (Reinforced Concrete). Other courses include ME339 (Mechanical Installations) offered by the Department of Mechanical engineering and PHYS105 (Physics); MATH140 and MATH150 (Mathematics 1 and 2); and STAT324 (Statistics 1) offered by the College of Sciences. In addition to this formal academic relationship, many of the faculty members of this college maintain close working relationships and personal ties to engineering faculty members.

The College of Architecture and Planning in general and the Department of Architecture and Building Sciences in particular contribute substantially to the University. Over the last several years members of the faculty are serving or have served as Vice Minister of Instructions and Education; Under Secretary of the Ministry of Municipal and Rural Affairs; Chancellor of Prince Sultan University; Dean of King Abdullah Institute for Research and Consultation Studies; Dean for Admission and Registration at King Saud University ; Former Director of Projects and Maintenance Department, at King Saud University but now seconded for senior post at King Abdullah for His Parents Organization for Housing; and Vice-Chancellor in-charge of the Department of projects and Maintenance at King Saud University .

On the other hand, the College and the Department has enjoyed greatly from the patronage, visions and commitments of the leadership of the institution and the country. The leadership of the Kingdom through the Ministry of Education has developed new and expansive plans for the role of higher education as the transforming institution to develop the intellectual capital and human resources of the country to develop the new knowledge based economy. King Abdullah bin Abdulaziz Al Saud, the present ruler of the Kingdom has taken personal interest in the advancement of education and human development for upgrading citizens’ capabilities and qualifications. A plan for 22 new universities and institutions of higher learning has been approved and is now at various stages of implementation. Monumental new investments being realized include the establishment of the King Abdullah University of Science and Technology (KAUST) and the new campus for women currently under construction at Princess Nora University.

These investments along with greatly expanded investments in existing leading institutions such as King Saud University and the new women's campus under construction at King Saud University are changing the landscape of higher education for the entire society. In addition, these campuses will be complemented by the new Riyadh Techno Valley project which is also under construction to enhance the research base of the university in partnership with the private sector to become an international leader in a research driven knowledge based society.

These investments have been clearly identified by the leadership of King Saud University that these expanded missions and goals must be reflected throughout every academic program. The College of Architecture and Planning has been engaged in professional and research efforts for years and has established a relatively new office for Research Center and Information that is a part of the university wide system for research. Therefore, it is clear that King Saud University has made a major investment in this new expanded academic and research mission. The College of Architecture and Planning has been officially recognized as one of the top three colleges within the university and architectural education is positioned very well within the academic context to grow and prosper.

**3.1.2 Architectural Education and the Students**

The students come from a highly disciplined secondary educational system and their entry into the university systems throughout Saudi Arabia are through the newly mandated preparatory year program. The focus of this program is the English language skills as well as basic mathematics, research, computer and communication skills.

King Saud University architecture program is an intense 170 credit hour system that is directed at the development of conceptually and technically proficient professional architects. The preparatory year program is critical in terms of developing language and communication skills required to succeed as a professional. The Islamic Culture sequence is a responsibility of being an informed citizen of the culture. In addition to these foundation programs there should be the consideration of the general education offerings of the university as students need an opportunity to explore their unique interest. This is the basis of the NAAB requirement for a minimum forty-five credit hours taken outside of the professional architectural courses offered through the program. This issue of having opportunities for additional general education offerings is a significant educational concept that requires exploration.

The architecture program provides opportunities for students to develop their individual skill and direction in a strong liberal education in architecture through interdisciplinary studies and dynamic core courses. The course requirements ensure that graduates will be technically competent, critical thinkers who are capable of pursuing multiple career paths within a changing societal context. Core courses develop the skills required in the profession while electives offer students the opportunity to establish their own learning agenda and concentration.

The pedagogic approach to architecture education is centered on the studio. The studio provides the appropriate environment for the assimilation and synthesis of knowledge gained throughout the curriculum by incorporating design, technology, sociology and the biological needs of people. Studio courses provide sequentially challenging projects and are intended to develop the students’ skills to acknowledge, analyze, articulate, and synthesize solutions pertaining to the built environment. All courses are offered twice a year. Students are allowed to choose the instructor they wish to be with, depending on first come first serve basis. The ratios of students to course instructors are 1:10 in design courses and 1:25 in other courses. The studio technical courses, along with multidisciplinary courses, give students the range of curriculum and pedagogical situations to develop the abilities to work effectively in the full range of work settings and with a range of people who have different ideas, beliefs, and cultural heritage. The studio space is available to students 24 hours a day, which fosters this interaction.

The Master of Architecture program offers opportunities for students who want to broaden their education at the graduate level. It gives the opportunity to graduates to choose an area of specialization which include the following:

1. Theory and History of Architecture.
2. Environmental Design.
3. Facility Design.
4. Building Technology and Project Management

Study abroad opportunities are made available for students who wish to further expand their global consciousness through the 6 weeks summer training program. The summer training program has been successful in giving students outreach opportunities. During the last 5 years, students in the Department of Architecture and Building Sciences have chosen to do their summer trainings in Italy, France, Germany, Turkey and Malaysia. The summer training aims to train the students in nationally and internationally recognized firms in order to develop their thinking and get them exposed to international experience and thought.

With regard to student support, the university policy is to provide and fulfill the needs of the students in the best possible way. Almost all students of the university are paid monthly stipend by the government. Exemplary students are given encouragement through the Dean’s List whereby those who are listed will be given monetary rewards and certificates. Ample housing for students is also provided in addition to other common facilities to cater for health, sports, culture and other extra-curricular activities.

Additional supports services and facilities are also made available to students at the College and Departmental level. There is a stationery shop situated on the ground level and a cafeteria at Level 1.

To enhance student/faculty and student/administration relationship, ample access is made available through the Student Advisory Council. The Student Advisory Council has an open-door policy to encourage students to voice their concerns to faculty and administration. Regular meetings are also conducted between student representatives with the Dean and Vice Deans. The system of academic advisor is in place with each faculty members having 12 students as advisees each academic year. The Academic Advisor is fully responsible to advise and guide the student in his academic development and when necessary, other aspects including personal and psychological help. A Suggestion Box is also provided to invite students to express themselves anonymously. In the program of architecture, students form a student committee to work as a link between the students and the program faculty members to discuss their problems and participate in the program progress and development.

The College has a student body organization society. Representatives to the society are elected by the students. The society has been active in activities such as trips to architectural sites, public lectures, seminars, exhibitions. All these activities are supported financially and morally by the College.

**3.1.3 Architectural Education and Registration**

There is currently no compulsory licensing examination or legal registration required for the practice of architecture in the Kingdom of Saudi Arabia. The system is dependent upon the educational systems of the College of Architecture and Planning to produce qualified architects. There are, however, registrations through commercial business procedures. Although effort towards licensing and registration has been made by the Saudi Council of Engineers, it is yet to be enforced.

The Saudi Council of Engineers is an umbrella organization which controls engineering practices in Saudi Arabia. It has incorporated architects and the practice of architecture into its dominion. As such, most practicing architects are members of the Council. As per the rule of the Saudi Council of Engineers, registration to become a professional member of the Council requires 5 years of internship after obtaining the Degree of Bachelor of Architecture from recognized institution of learning. A relatively new organization, the Al-Umran Saudi Association which is affiliated to the Union of International Architects (UIA) has been established to unite architects. The architecture faculty has a good working and professional relationship with both the Saudi Council of Engineers and the Al-Umran Saudi Association.

Some faculty members are practicing architects who are either the owner of design firms or a principal in their respective establishments. Their expertise, guidance and recommendations provide invaluable, current, and relevant information on the requirements for a successful journey toward architectural professional practice. Furthermore, the location of the University within the capital city of Riyadh provides vast opportunities for contact with legislators and others concerned with the issues facing the design and construction industry.

**3.1.4 Architectural Education and the Profession**

The Architecture program is taught primarily by faculty members of whom many are practicing architects. Also professionals from the Saudi market industry are invited to participate in teaching the program. This combination result in a balance of theoretical, technical, professional, and creative knowledge. Students are prepared for careers in architecture and a wide assortment of other design or construction-related professions. The collaborative multidisciplinary approach provides opportunities for architecture students to broaden their understanding of the profession, develop acute awareness of the interaction and interrelationship of associated disciplines, and develop awareness of the need to further advance their knowledge through a lifetime of practice and research.

The curriculum is based on the belief that design issues, history and context, technology, and professional practice all influence and affect the architect’s work, which inhabit the civic, social, and professional realms of architecture. Course work covers the range of topics critical to the understanding of the profession including design, construction materials, technology, and professional practice.

Undergraduate architecture students are required to take the ARCH 491: Architectural Professional Practice course. The course content examines architectural practice within the context of the Kingdom of Saudi Arabia and elsewhere, developing an understanding of the profession including the relationship of the profession to society, as well as the organization and management of the process of providing professional services and the procedures, requirements, and expectations towards future registration as a professional member of the Saudi Council of Engineers.

The location of the University in the capital city of Riyadh is ideal for attracting guest critics, lecturers, and adjunct faculty. These professionals, both practitioners and academics, possess a wide range of professional experience and disciplines. Guest critics for student presentations include practicing architects, landscape architects, town planners, historic preservationists, structural engineers, and interior designers. Each year local architects are included in the lecture series to highlight regional architecture. The Department of Architecture and Building Sciences also uses the professional community and construction projects in the city as a laboratory for construction education.

The qualifications of the faculty cover a full spectrum as well. Current faculty members include mid-level practicing architects, senior architects, and firm principals. In addition to Architects, the program of Architecture and Building Sciences also employs interior designers, mechanical engineers, structural engineers, landscape architects, and project managers as faculty members. The breadth of expertise and disciplines represented by both these faculty members and guest critics brings a deeper understanding and appreciation for our students of the diverse and collaborative roles of the architect and a respect for the associated disciplines.

Some undergraduate students and most of the graduate students work in architecture, interior design, construction, or real estate firms. These students are able to forge relationships with professionals and gain valuable experience. They are able to bring both office experiences into the college and college experiences to the office, and benefit from the impact of this interaction. This contributes to the positive sense of transition experienced by our students upon entering practice at graduation.

The graduates of our program generally select careers within the traditional roles of the profession or through professional services required by the numerous ministries and municipalities that require the services of architects and project managers in the vast array of projects being developed throughout the Kingdom. A questionnaire survey and interviews were conducted with both recent and established professionals indicated that the graduates of the architecture program are generally well prepared for the various responsibilities and roles that they are expected to accomplish throughout their careers.

**3.1.5 Architectural Education and Society**

The Vision and Mission of the Department of Architecture and Building Sciences is about making connections with the community, society, and the profession. Design projects in the curriculum present challenging problems related to urban and suburban environments. The program has had the opportunity to be engaged in numerous projects and institutional facilities in Riyadh and elsewhere within the Kingdom, particularly the two holy sites of Mecca and Medina.

The City of Riyadh and its development projects offers a living laboratory to expose students to urban issues as well as challenge them to creatively address design problems that must consider social, political, environmental, as well as artistic issues. The studio projects present students with opportunities to meet real project requirements through cooperation with local area organizations and municipalities.

There are unique conditions of the society and culture of the Kingdom of Saudi Arabia. The location of the university in the capital city of Riyadh has added more to these already unique conditions of Saudi society and culture. The city has a population of more than 6 million people comprising of Saudis and expatriates. The expatriate community is a mix of both Arab and non-Arab from various nationalities thus making it possible for the students to benefit from the diversity, cultural heritage and energy of the communities in the capital city. The missions and directions of the architectural program are respectful of these social and cultural values. The students and faculty are also respectful of these cultural values and recognize that it is the responsibility of the architect to design environments that are fully informed by these values.

Professionals from Riyadh and surrounding municipalities and agencies, including town planners, and planning and zoning, have been invited to address students on their expertise, including the challenges of multiple design professionals, agencies, and clients. Such professionals are often invited as guest reviewers in the design studio and provide critiques of student design projects.

Architecture faculty members have a rich history in civic engagement, including professional and public service. Faculty members are serving or have served in professional society positions. The College and the Department of Architecture and Building Sciences also held numerous conferences, seminars and have been involved and participated in community services through projects and competitions. The college has also been involved in committees, activities and alliances which include the following:

* Organization of the International Symposium on Mosque Architecture Sponsored by Ministry of Higher Education and the Ministry of Islamic Affairs, Endowment, Da'wa and Guidance held at King Saud University.
* Organization, documentation and implementation of international competition for planning and design of King Khalid University campus in collaboration with King Abdullah Institute for Research and Consultations Studies, since 2004..
* Revision and evaluation of the planning and designs of the numerous proposed University campuses sponsored by the Ministry of Higher Education.
* Evaluation of research projects submitted to King Abdullah City for Science and Technology.
* Preparation and grading of promotion written examination papers for employees of the Civil Service Departments in the field of Architecture and Planning.
* Participation in Architectural Competitions.
* Jurors of Architectural competitions.
* Design of projects for government and private sector.
* Participation in the development of Jabal Omar (Mount Omar) area in Mecca international competition. Being in the vicinity of Al-Ka’aba, the area is thought to be a quite remarkable urban estate with high standard housing, offices hotels, and shopping malls. Many pronounced consultants, colleges of architecture and distinguished architects participated.
* Study of housing and traffic in the Holy cities in collaboration with the Custodian of the Two Holy Mosques Institute for Hajj Research in Mecca 1993.
* Annual exhibitions held by the College.
* Participation, supervision and implementation of University major exhibitions held under the theme ‘The University and Community Week’.
* Participation in the exhibition of students of Architecture and Planning and Environment Design of the Kingdom Universities organized by the Al Umran Saudi Association.
* Annual exhibition held by the Department of Architecture and Building Science jointly with the Department of planning. Student’s projects from various levels are exhibited for the public. The exhibition committee in coordination with the Rendering and Graphics unit, making models unit and the College workshops, spend great effort to produce an exhibition which reflects the best image of the college.
* Participation in the exhibition about Building with Mud organized by the Higher Commission for the Development of Riyadh in coordination with the French Embassy.
* Participation in Al-Janadria Cultural Heritage Festivals.
* Participation and winning the 1st Prize in the National Competition in Design of Seven Hotels owned by King Abdullah 2008.The College of architecture and planning was also commissioned to prepare the executional drawings for the project.
* Participation and winning the 1st Prize in the International Competition for the Design of the grand expansion of the Grand Mosque in Mecca 2009.
* Participation in the Design Competition for the King Abdulaziz City for Nuclear and Sustainable and Renewable Energy 2010.

The Department of Architecture and Building Science at KSU also enjoys good standing and reputation within the local community and the region. In addition to its educational mission, the Department provides many services to the community through its staff. These services include giving consultations to various governmental organizations such as the Ministry of Municipal and rural Affairs, Ministry of Education, Ministry of Hajj and King Abdulaziz for Science and Technology, the Higher Commission for the Development of Riyadh, Higher Commission of Tourism and other. The Department also contributed in educating the community about the role of the architectural profession through the active participation of the staff in various organizations and societies i.e. the Al-UMRAN Saudi Association, or through their essays and writings in public media, seminars and public lectures. The Department has established good reputation and high efficiency in various aspects through the hard work of the staff and administrative bodies.

Contributions by the College of Architecture and Planning to the community and society at large are also being made through the following research chairs:

* 1. King Abdullah Foundation’s Chair for Developmental Housing.
  2. Prince Sultan bin Salman Chair for Architectural Heritage.

In addition to the program contributions in serving the community through organizing conferences, meetings, exhibitions and participating in project consultations and competitions, the program has graduated professional architects who serve the society through their positions. Many of the program graduates have taken high positions in the Kingdom and serve the community of Saudi Arabia through different directions of development. Many of the program graduates currently are serving or have served as Ministers and Deputy Ministers, University Rectors and Deans of Colleges and Heads of Department in the Municipalities. Through all these, the program has proven its strong link with the Saudi society which has been one of the main objectives behind the initiation of the program.

**3.2 Program Self-Assessment Procedures**

The Department of Architecture and Building Sciences has established an assessment process which is used for continuous improvement of the undergraduate program and the department’s educational operations. The initial four surveys are extensive documents with 58 questions each and will be provided to the team during the NAAB site visit to KSU. The plan for assessing our program objectives was first formulated, discussed, and approved by College of Architecture and Planning with the following guiding principles:

* Assessment is understood to target the program rather than evaluating performance of individual students, faculty, and courses.
* All faculty members participate in this shared responsibility which is critical to the success of this assessment.
* Participation includes all program constituents (students, alumni, etc.)
* Flexible execution within a standardized framework encourages faculty and student participation.

Guided by these principles, a hierarchical structure with three levels is incorporated in the evaluation of the Program Outcomes. These three levels are Course, Curriculum and Program. The hierarchical approach recognizes the participation of participants at the appropriate level. Ideally, all parties need to participate actively at all levels, however, it is recognized that this ideal approach may not be achieved with ease and become consistent all the times. However, with the three level approaches an effective interaction among the parties will lead to a more effective assessment.

A systematic approach that defines the objectives, the responsible parties, the frequency and the assessment tool for each level has been developed. It applies a closed loop feedback system principle. At the end of each loop, a feedback for improvement is developed then is applied to the system and tested with the participation of participants.

Assessment tools are used to evaluate the program outcomes, these tools are divided into direct and indirect tools as follows:

Direct Tools

Curriculum/Course Assessment

Graduation Project Assessment

Indirect Tools

Professional Training Survey

Students Exit Survey

Alumni Survey

Employer Survey

Academic Advisory Board

The following parts discuss the assessment procedure for each assessment tool. At the end, a summary of the assessment process based on all assessment tools is presented.

Curriculum/Course Assessment

The department has developed two levels for assessing each course. The course level assessment compiles input from individual faculty members teaching a course, and the faculty coordinator for each course taught. In order to minimize inconsistencies in teaching individual course by different faculty members and to have a coherent structure of core and elective courses in the area, the first level is performed by the faculty teaching the course, and the second level is by a coordinator group consisting of faculty members who are considered in the field of that course.

The first level is the Course Assessment by Faculty where the individual faculty member who is responsible to set course objectives and course outcomes with appropriate assessment tools, analyze and summarized the assessment for each course at the time the course is taught.

A detailed summary of the improvement introduced in the course and set of recommendations are submitted by the faculty in the Course Report. The second level is the coordination groups which meet regularly each semester to discuss the course assessment, the Course Reports and the suggested improvements and their impact on other courses in the curriculum.

The process starts by developing the Course Syllabus (Course Syllabus and descriptions). In developing a course syllabus, the course educational objectives are set first. These educational objectives for each course define the expected outcomes of the course. These may differ from one course to another. This is the case because of the particular nature of each course. Once each course objectives have been derived, the course is designed and delivered. Course assessment tools are then used to collect data indicating whether the course material has been properly delivered to the students or not.

The course outcomes are measured using three indices: Student Assessment, Faculty Assessment, and Quantitative Assessment. All course files for the NAAB visit will contain these assessments.

##### 1. Student Assessment of the Course

Student assessments are surveys filled out at the end of each semester for each major or elective course. Moreover, students also complete the traditional course and instructor evaluations at the end of each semester. This assessment is prepared by each faculty teaching the course. These student assessments are intended to give the students’ point of view in the program outcomes. We do not expect every class to impact all program outcomes.

The survey asks students to evaluate each course outcome based on a 1-5 scale, where 1 is poor and 5 is excellent. The bases of evaluation should be on student's feeling of how the class has helped him to achieve the abilities, and understand as described in the syllabus outcomes over the course of the semester. The results of the survey are collected and analyzed by the faculty member teaching the course, and the result is shown to the coordination group. Scores are evaluated among different courses.

##### 2. Faculty Assessment of the Course

Each faculty evaluates each of the course intended outcomes on a scale similar to that used for the student assessment of the course form. The evaluation corresponds to the extent the faculty feels the class has helped the students to achieve through the course of the semester. The result of the survey is added to the Course Report

##### 3. Assessment of Curriculum Outcomes

The curriculum level assessment is an intermediate level between the course level and the program level assessments. The curriculum level assessment leads to the improvement of Architectural Program curriculum. The results from course assessment procedure of each course are fed into the department assessment program, which refers to assessment of curriculum outcomes. Each course has specific effect on curriculum development.

The coordination groups that work with individual faculty are responsible for assessment, planning and improvement of the courses that are taught by these group members. The coordination groups then report the recommendations to the curriculum/academic committee who evaluate the proposed improvements and their relations to the overall curriculum. The results of the curriculum committee deliberate to evaluate the impact of the recommendation on the program. If the changes are major then the committee will seek the input of all constituencies by formal and informal means. If the changes are minor then the committee will report to the department council meetings.

The curriculum assessment process accumulates the individual contribution from all courses in the architectural program to the program outcomes in order to assess the contribution of the entire curriculum. By mapping the program outcomes to the program objectives, recommendations could be made at the end of the process to improve the program outcomes as well as the program educational objectives. Recommendations could be made at the end of the process to improve the program outcomes as well as the program educational objectives.

The procedure followed for preparing course evaluation schemes is as follows:

a. Faculty members were informed of the NAAB related 33 Student Performance Criteria and were asked to prepare their material for the evaluation. They filled in the relevance of their activities to the department.

b. The results are compiled and processed for each course using course assessment program and compared with the NAAB Student Performance Criteria. The results were fed into the departmental assessment program.

c. The outcomes were discussed at various levels and feedback has been produced for the overall action in line with the feedback from other parties.

d. Overall action has been taken for departmental issues; departmental council decision has been secured. For major curriculum issues, Faculty and University level endorsement are secured. The changes agreed upon are implemented.

#### Graduation Project Assessment

The graduation project is a two-semester course, Graduation Project I and Graduation Project II. Each student chooses a realistic comprehensive project that meets the needs and requirements of the country development. The assessment of the graduation projects is done based on the assessment information collected from the advisor grading, final report and final presentation assessment by examining jury (externally and internally). The assessment is based on outcomes that are mapped to the Program Outcomes. The results of the graduation project have been analyzed for the fall and spring of every year.

#### Exit Survey

The exit questionnaire is used to gather information from graduating students on the level of program achievement of its outcomes. Comments of possible improvements and modifications are also solicited. This survey provides valuable information on the program outcomes from the graduating senior class as they are leaving the program.

The exit survey was conducted on a sample of all graduation project students which ranges from 40 to 80 students based on the statistics of last five years. The following Table () summarizes the averages of the themes in the Exit survey questionnaire. It is noted that there is a positive view on most of the themes approximating around 50% with a mean value between 3-4, except for their view on relationships of the department with the community 37% with a mean value of 3. Details of the statements and results are found in the appendices of this document.

| Table (): Exit Survey Summary | | | |
| --- | --- | --- | --- |
| Themes | Percentage | | Mean value |
| S. A.+ Agree | Not Sure |
| Department mission and objectives (Avg.) | 65 | 30 | 4 |
| Management of quality assurance & development procedures Statements (Avg.) | 55 | 29 | 4 |
| Learning & teaching – statements (Avg.) | 48 | 32 | 3 |
| Students affairs & supporting services (Avg.) | 49 | 27 | 3 |
| Learning resources (Avg.) | 66 | 23 | 4 |
| Department community relations (Avg.) | 37 | 30 | 3 |

Furthermore, each semester, the Dean and the Department Chair invite graduating seniors to provide feedback on their educational experience in architectural program at King Saud University based on their experience with the market needs. This discussion includes all topics, including perception of instructors, problems with courses and design studios, and evaluation of advising experiences.

#### Alumni Survey

Alumni surveys are an assessment of the program educational objectives and outcomes which will be conducted every year. Alumni graduated during the period of 2000-2011 were invited to participate in the First Architectural Alumni Gathering Day that was held in January 2011. During that meeting, open discussions were held with the Dean, Department Head, and attending faculty members. The Alumni Survey was circulated and collected at the end of the day. The following Table () summarizes the averages of the themes in the Alumni survey questionnaire. Details of the statements and results are found in the appendices of this document.

|  |  |  |  |
| --- | --- | --- | --- |
| Table (): Alumni Survey Summary | | | |
| Theme | Percentage | | Mean value |
| S. A.+ Agree | Not Sure |
| Department mission and objectives (Avg.) | 62 | 25 | 4 |
| Management of quality assurance & development procedures Statements (Avg.) | 40 | 32 | 3 |
| Learning & teaching – statements (Avg.) | 47 | 23 | 3.2 |
| Students affairs & supporting services (Avg.) | 49 | 28 | 3.3 |
| Learning resources (Avg.) | 48 | 26 | 3.3 |
| Department community relations (Avg.) | 43 | 23 | 3.1 |

#### Market/Employer Survey

The market survey for architectural graduates is a tracking procedure that was developed to support ongoing monitoring of a graduate market conditions in KSA. The purpose of the survey is to examine the market needs. It focuses on the strategies of recruitments, employer’s needs, and skill requirements. Another target is to evaluate the performance of our graduates on their job, either private or governmental job.

The information from this survey is beneficial for the refinement, improvement, and upgrading of our programs. It may also provide basis for the comparison of the college curricular, programmatic and student’s development goals with the needs of market and governmental institutions. This survey is considered as an outlook for the market perspective for our graduates.

The main constructs of the Market Survey study were derived from student performance criteria to assure the capability of the graduates to perform the required jobs. Possessing the knowledge and understanding in addition to acquire the ability to perform the job tasks are the major constructs. The market survey was conducted during June 2011, the response rate to the questionnaire was relatively high (84%).

* The responses of the employer on the communication and design thinking skills are acceptable, which is probably due to the college’s strong support by providing digital media labs with cutting edge technology that help students in improving their computational digital skills, parallel to manual skills development courses.
* The responses of the employer on the technical skills and knowledge show an acceptable level of performance even though there are some negative tendencies in some aspects such as: the understanding the principle of sustainability and the ability estimate cost and life cycles analysis systems. The mean is around the average 3. This is considered acceptable. However, extensive review of integrated design courses should be considered.
* The responses of the employer on leadership and practice skills are acceptable. These skills include the ability to apply acquired knowledge, the ability to work with other as team player, among other factors such as the punctual and use time effectively also considered positive tendency as it is 3.3 out of 5.

The questionnaire design and other details of and survey *are available for reference in the Visiting Team room*.

**Professional/ Summer Training**

The program requires 60 days of professional training in private offices or public agencies. Additionally, since five years ago, the program started an international training program of six weeks to five countries, Germany, Italy, France, Turkey and Malaysia. Also, there is an arrangement to send students to the United States. Students spend their training period in one of the prestigious offices under supervision of highly qualified architects with arrangement of a faculty member who accompanied them. The department assigns each year a faculty member as a professional training supervisor. An evaluation system was adopted through conducting a survey filled by the professional training supervisor. The survey is designed to test achievements of NAAB requirements (33 criteria). The information provided by the architectural supervisors provides valuable feedback to the level of achievement of our student’s abilities and understanding. The professional training supervisors are constituents because the trainees are actually performing services for their organizations, and therefore the education that the students have received up to that point is a deciding factor in determining the level of their performance. Professional training supervisors are therefore a constituency well qualified to provide assessment of the academic programs through the junior year in instilling the knowledge, skills and character traits students need for successful careers as practicing architects.

Another level of evaluation is the report by the student at the end of the training. Students are asked to provide a written report detailing their experience during whole summer training. This report is evaluated by the department professional training supervisor. Records of Professional /Summer Training for previous years *are available for reference in the Visiting Team room.*

#### Academic Advisory Board

The board is an advisory body to the college of Architecture and Planning with the objectives of contributing to the continuous improvement of the overall academic program in accordance with the requirements of the labor market, the guidance of future policy, the assessment of strategic plans, and the communication with the public and private sectors.

Members of the board are key figures in the society, community, and field of expertise; most of them were graduated from the College of Architecture and Planning. The board is headed by Prince Khaled Bin Abdullah Al Mogren Al Saud member of the Shura Council. The advisory board was formed by a recommendation from the College Council members and commendation of the Rector of King Saud University.

Tasks of the Academic Advisory Board are:

1. To submit proposals that serves the future of the College.
2. To strengthen the relationships between the College and the Public and Private sectors for the benefit of the community.
3. To contribute in the development of programs and curricula according to the requirements of the labor market.
4. To contribute in the implementation of the college’s strategic plan.
5. To submit proposals that would provide moral and financial support of the College.
6. To contribute in the coordination of joint projects between the college and community sectors for the sake of finding integrative solutions to the problems of society.
7. Propose methods for providing sources of funding for the College's developmental projects

Records of the boards meetings *are available for reference in the Visiting Team room.*

**3.3 Public Information**

The Department of Architecture and Building Sciences appears in the website and prospectus of King Saud University<ksu.edu.sa>, and the College of Architecture and Planning. The department also has its own catalogue and an online web site *http://colleges.ksu. Edu.sa/Architecture and Planning /Arch/Pages/Bachelor%20 programs as…*

In all these publications and web sites the professional architecture degree program is clearly described. All information regarding the NAAB "Substantial Equivalency" status of the program is clearly published in all documents of the university and the college. All literature referencing the program including web based information clearly states the definition of NAAB Substantial Equivalency.

While at the College level, faculty members and students were all acknowledged about NAAB Substantial Equivalency and how to access the NAAB web site in special meetings for this single purpose. They were also informed about NAAB Conditions and the Students Performance Criteria through lecture instances described in the following:

* By experts in NAAB conditions and procedures in two separate public lectures for the faculty and students of the program.
* By the NAAB president during the1st NAAB site visit to the program in October 2010, in two separate lectures to the faculty and to the students.
* In two public lectures given by the accreditation committee of the department one to the faculty, and the other one to the students.
* On other occasions during the design studio the faculty used at least once to open the web site of NAAB Substantial Equivalency 2009 and reviewed it with the students emphasizing the 33 Student Performance Criteria.
* Information about NAAB Substantial Equivalency 2009 have been posted on information boards throughout the college congregational spaces, in the electronic screens of the main atrium of the college, and also in departmental council meeting room.

**3.4 Social Equity**

King Saud University was founded on the precept of Islamic traditions and cultural values that uphold fairness and integrity in all aspects of life and in social values. This precept forms the basic constitution of the University and all the Colleges.

This includes upholding the principles of social justice, equal opportunity,cultural diversity, honesty, respect, as well as professional ethics. Everyone in the College have the same equal opportunities as well as their rightful obligations. In practical terms, the College develops and delivers its policy and programs that support cultural diversity, ethno/racial diversity, physical ability, creed, and participation, in the life, work, and mission of the College.

Employment equity is reflected in the diverse ethno/racial composition in the college at all levels and disciplines. Distribution of incentives is equally offered without regard for their nationality, origin or mother tongue. All faculty members and staff are given remunerations based on the standard National policy that is applicable for all government institutions throughout the Kingdom.

|  |  |  |
| --- | --- | --- |
| **Table showing the number of College Faculty, Staff, Architects and Technicians** | | |
| Employee Category | Saudi National | International |
| Faculty Members | 28 | 22 |
| Staff | 30 | 15 |
| Architects | 8 | 3 |
| Technicians | 3 | 1 |
| Total | 69 | 41 |

The College abides by the “Students’ Rights” policy which established the rights of all students to get fair conduct in education and admissions. The College accepts international students from different parts of the world and anticipates the intake of students with physical disabilities. Male students and female students are given equal opportunities and facilities in education in the University. King Saud University is building a large separate ‘women-only’ campus in the vicinity of the men’s campus, to reflect the traditions and cultural values and concerns for educational equity.

At the regional level, King Abdullah bin AbdulAziz, of Saudi Arabia has built a new campus for the Princess Noura University, now the largest ‘women-only’ university in the world. Almost all the large cities in the Kingdom have a university specially designed for female students which is built on the precepts of Islamic traditions and cultural values, while providing professional educational programs for the women of Saudi Arabia. Other universities in the Kingdom for women include the Effat University, Darul Hikmah University, Al-Faisal University, Prince Sultan University, King Faisal University, and Yamammah University, to name just a few.

**3.5 Studio Culture**

The Studio Culture Policy is to cultivate an innovative, optimistic, adaptable and progressive atmosphere for the learning of design and creativity, art and science of architecture, in accordance with the precepts of the College, and King Saud University. In so doing it aims to preserve an optimal environment where independent design-thinking process prevails to produce healthier, more optimistic, and more engaging students of architecture. It also aims to instill and nurture the professional traits of architecture in the body and mind of graduates.

King Saud University Architecture Program has implemented a “smart studio” setup for learning design in its studios. All the required instructional technology and equipment related to, design studio teaching, are available at all times. Studios are equipped with computerized lecterns, ceiling- mounted projectors and wall-mounted smart touch-screen panels, with selective studio furniture to match.

King Saud University’s Architecture Program is committed to creating and preserving a studio environment conducive to the growth of the intellectual needs of its students and essential experience to help graduates succeed in their goals. It is in this space where unique ideas are being implanted and manifested, and the foundations to relationships are being created. These include the relationships between peers, student and faculty, the studio environment, and the teamwork formulated in the study and practice of architecture.

Faculty members along with teaching assistants instill independent design-thinking by not imposing high-handed ideas to hinder the development of creative minds, but to encourage a free, and independent development of creativity.

The studio culture policy has been drafted and published in the Department of Architecture and Building Sciences Website and are posted on the public bulletin boards of the College. Faculty and Students have been informed of the Studio Culture Policy through department-wide introductory presentation lectures, in promotional brochures, in educate multimedia info-system and in college prospectus documenting the studio culture policy and its implementation. The Studio Culture Policy is provided in section 4.2

**3.6 Human Resources**

The Department of Architecture and Building Sciences is committed to providing adequate human resources to support a well-functioning professional degree program that will continue to adapt to the changing requirements of the architectural professions and the industry. The policy has always been oriented to achieving an optimum educational environment. Therefore the intention is to attract very qualified faculty members from all over the world with different cultures and different schools of thoughts and professional experiences.

There are currently 50 faculty members in the program, made-up of both local and international academics coming from different nationalities and professional backgrounds. These faculty members are highly competent, dynamic and experienced and most are PhD degree holders. They are supported by 15 full-time teaching assistants. The list of faculty and their responsibilities are provided on pages 25 and 26.

1. **Teaching Faculty/Student Ratio**

The number of teaching faculty and their ratio to students, as well as the scope of their specialization is excellent. In recent years a tangible improvement in the number of teaching staff has been made in response to the increase in the number of students admitted to the program. The faculty/students ratio of 1:10 is now achieved which is somewhat better in comparison to international standards. A much better ratio will be achieved if part-time teaching staff and teaching assistants are taken into account. Design studio averages are excellent at the ratio between 8 – 12 students/faculty.

The following table demonstrates the distribution of workloads for the program for every teaching faculty.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Post | No of Faculty | %of Faculty | Average  Credit Hrs./  Faculty | Classes Taught/  Year | No. of Students Taught | Average Class sizes |
| Professors | 13 | 28.6 | 14.8 | 44 | 718 | 16 |
| Assoc. Prof | 18 | 40.0 | 12.6 | 50 | 869 | 17 |
| Assist. Prof | 19 | 31.4 | 11.2 | 45 | 702 | 16 |
| Total | 50 | 100.0 | 14.0 | 139 | 2289 | 16 |

1. **Student Statistics-History of Enrollments & Graduates**

At the moment the College of Architecture and Planning has a total number of 516 students enrolled in the Bachelor of Architecture professional degree program. In addition, 36 students are enrolled in the Master of Architecture program as well as 4 students are pursuing Ph.D. in Architecture. Diminished means they are no longer in the program due to transfers or withdrawals from a total of 1821 student recorded since 1967. The illustration is shown as in the Table below.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Program | Active | Diminished | Graduated since 1972 | Total |
| B. Architecture | 516 | 138 | 1023 | 1677 |
| M. Architecture | 36 | 65 | 35 | 136 |
| PhD Architecture | 4 | 4 | - | 8 |
| Total | 556 | 207 | 1058 | 1821 |

1. **Faculty Training Programs**

The university provides training programs and short courses for new faculty members designed to develop their qualifications and experiences in teaching. Also, seminars and lectures are organized and given by experts in the educational development for faculty members about program assessment, student’s evaluation and course assessments in order to develop a better understanding of how to develop the program. Moreover, the program encourages its faculty members to participate in professional practice and in fact encourages constructive competition and provides incentives for outstanding performance in community service. The department recruits outstanding professionals to participate in teaching basic skills, and practical and professional courses.

**d) Faculty Assignments and Responsibilities**

All full time faculties are responsible for a minimum of thirty five hours per week with assignments for teaching, research, academic advising, office hours and service for college and departmental meetings and committees. Teaching loads vary by rank as professors are assigned 10 credit hours, associates 12 credit hours and assistants 14 credit hours. All faculties are assigned a minimum of eight hours per week for research and six hours for office and advising, administrators are provided appropriate release time for their responsibilities.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **List of Full Time Faculty Member by Rank** | | **Teaching** | **Research** | **Others** |
| **Professors** | Abdul Aziz Saad H. Al Mogren**(Dean)** | 3 | 8 | 24 |
|  | Ahmed H. Al Arjani | Seconded to King Abdullah and His Parents Foundations for Affordable Housing. | | |
|  | Ali S. O. Bahammam | 10 | 8 | 17 |
|  | ElsayedAmer | 15 | 8 | 12 |
|  | Hazem Mohammed Ewais | 12 | 8 | 15 |
|  | Mohammed Al Hussayen | 14 | 8 | 13 |
|  | Mohammed AbouElmagd | 15 | 8 | 12 |
|  | Mohammed M. Eweda | 17 | 8 | 10 |
|  | NamirHeikal Ismail Heikal | 17 | 8 | 10 |
|  | Nasser A. Al Hemiddi | 1 | 8 | 26 |
|  | Nouby M. Abd Al Rahim | 18 | 8 | 9 |
|  | OssamaAbdou | Unpaid Leave | | |
|  | Tarik M. Al Soliman | 10 | 8 | 17 |
|  | | **Teaching** | **Research** | **Others** |
| **Associate**  **Professors** | Abdul Rahman Abdullah Al Tassan | Seconded to Real Estate Development Company. | | |
|  | Abdullah Mahmood | 16 | 8 | 11 |
|  | Ahmed Omar Mohamed Sayed | Seconded to University Endowment Office | | |
|  | [Hatem Mohammed El Shafie](http://faculty.ksu.edu.sa/hs/default.aspx" \t "_blank) | 19 | 8 | 8 |
|  | Ibrahim Rashid Saad Al Jowair | Sabbatical Leave | | |
|  | [Jamal Shafig Ilayan](http://faculty.ksu.edu.sa/jilayan/default.aspx" \t "_blank) | 17 | 8 | 10 |
|  | KamarulzamanYusof | 16 | 8 | 11 |
|  | MahmoodCheHussin | 18 | 8 | 9 |
|  | Mansour Al Jadeed**(Chairman)** | 3 | 8 | 24 |
|  | [Mohammed Ali Bahobil](http://faculty.ksu.edu.sa/5773/default.aspx" \t "_blank) | 13 | 8 | 14 |
|  | [Mosaid Abdullah Al Sadhan](http://faculty.ksu.edu.sa/6298/default.aspx" \t "_blank) | Seconded to Ministry of Higher Education | | |
|  | [Mustafa Mohammed Baleela](http://faculty.ksu.edu.sa/baleela/default.aspx" \t "_blank) | Unpaid Leave | | |
|  | Osamah Mohamed Al Gohari | 13 | 8 | 14 |
|  | Raeyd M. Al Dakheel | Seconded to Real Estate Development Company. | | |
|  | Rusli Abdullah | 13 | 8 | 14 |
|  | [Saleh Ali Alhathloul](http://faculty.ksu.edu.sa/21549/default.aspx" \t "_blank) | 11 | 8 | 16 |
|  | Salman T. N. Al Sedairy | Sabbatical Leave | | |
|  | Talal Abd Al Rahim Al Raddadi | Seconded to Ministry of Higher Education | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Assistant** | [Abdul Rahman  H. Al Harkan](http://faculty.ksu.edu.sa/5045/default.aspx" \t "_blank) | Executive Manager for Private Sector | | |
| **Professors:** | Abdul Rahman M. Al Angari | 14 | 8 | 13 |
|  | [Abdullah Saleh Al Hussayen](http://faculty.ksu.edu.sa/2675/default.aspx" \t "_blank) | 15 | 8 | 12 |
|  | Abdulrahman M. Bakheet | 17 | 8 | 10 |
|  | [Ahmed Saleh Al Yamani](http://faculty.ksu.edu.sa/4386/default.aspx" \t "_blank) | Seconded to Prince Sultan University | | |
|  | Ali Said Elsomaili | 16 | 8 | 11 |
|  | ArsalanZahurruddinAbid | Vice Dean for Preparatory Year | | |
|  | [Ayman Mohamed Al Khatib](http://faculty.ksu.edu.sa/72699/default.aspx" \t "_blank) | 12 | 8 | 15 |
|  | [Faisal AbdelgadirAgabani](http://faculty.ksu.edu.sa/68686/default.aspx" \t "_blank) | 21 | 8 | 6 |
|  | [Ghazi Said S. Al Ghamdi](http://faculty.ksu.edu.sa/ghazi/default.aspx" \t "_blank) | 4 | 8 | 23 |
|  | HikmatHamad Ali | 22 | 8 | 5 |
|  | [Imad EddinOutahbachi](http://faculty.ksu.edu.sa/DR.OUTAHBACHI-IMAD/default.aspx" \t "_blank) | 16 | 8 | 11 |
|  | [Khaled Mohammed Al Jammaz](http://faculty.ksu.edu.sa/aljammaz/default.aspx" \t "_blank) | Seconded to University Endowment Off | | |
|  | [Mohammed Abdul Rahman Al Omar](http://faculty.ksu.edu.sa/12123/default.aspx" \t "_blank) | Seconded to Ministry of Higher Education | | |
|  | Mohammed Al Shraim**(Vice Dean)** | 4 | 8 | 23 |
|  | [Mohammed Said Hamed Al Ghamdi](http://faculty.ksu.edu.sa/3043/default.aspx" \t "_blank) | Sabbatical Leave | | |
|  | [Mohammed Sherif  El Attar](http://faculty.ksu.edu.sa/selattar" \t "_blank) | 14 | 8 | 13 |
|  | [Waleed Mohammed Abanomi](http://faculty.ksu.edu.sa/11569/default.aspx" \t "_blank) | Seconded to Ministry of Higher Education | | |
|  | Yousef Mohammed Fadan**(Vice Dean)** | 6 | 8 | 21 |

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**3.7 Human Resources Development**

Under King Saud University there are extensive policies and procedures that cover all aspects of the institution that apply to all students, staff and Faculty. Printed and web-based information is clear and exceptionally well detailed in policies ranging from initial appointments, development opportunities, criteria for advancement and procedures for all academic and administrative actions.

Therefore, under these policies and procedures the Department of Architecture and Building Sciences and the College of Architecture and Planning provide a number of resources and activities to promote the professional growth of students and faculty in the college. In Human Resource development the Department aspires to the following activities such as:

1. **Learning and Teaching**

The Department of Architecture and Building Sciences at KSU enjoys good standing and reputation within the local community and the region. There is high demand for its graduates in the local job market as compared to graduates of other schools of architecture. This represents a significant indicator of the high quality of learning and teaching processes at the department and college. To keep up this standard, the department regularly assesses the performance of its students and faculty and compares it to that of students of other reputable colleges within the region.

The department also maintains active links and co-operation with relevant institutions in both public and private sectors and periodically reviews its curricula and adjusts its optional specialization courses to better suit the requirements of employment and professional practice.

Of particular importance is that the department provided and developed an Architectural Learning Resource Center (ALRC). It has been recently developed and upgraded with advanced computers and sitting areas with new furniture and advanced facilities and reading areas and stacks. The ALRC has been stocked with many books and journals as to reach from 2000 to 8000 books. This ALRC is connected to the university central library, which the department utilizes to follow-up and update the books and references in its section.

1. **Professional Practice and Consultancy**

Universities are the source and support for growth and development of communities, through the use of best scientific principles and methods ever found. This led the College of Architecture and Planning to adopt such goals and apply them in various ways:

* Raising the standard of living through improvement of the environment.
* Utilization of expertise and the caliber of the teaching staff.
* Use of the positive interaction between the education programs in the College and advocate its applications in the real world to improve the built environment.

Accordingly, the idea of establishing the Architectural Consultation Unit was formed to bridge the gap between the College’s various specializations and professional practice, through the cooperation with design and planning consultants in the field. Hence, this unit would be highly specialized in the fields of architecture and planning to promote the standard and quality of the built environment and the career development of students and faculty.

The aims of this Unit may be summarized as follows:

* To establish a firm link of understanding between the academic facilities of the College of Architecture and Planning and the Architectural Consultation offices for mutual interest of the profession.
* To promote both the teaching faculty and the practicing architects experience in many aspects of mutual development. This has positive impact on the professors’ environment and educational performance.
* To strengthen and accentuate the role of the College of Architecture and Planning and its different branches in the society to take its appropriate position.

1. **Students in Practical Field and International Summer Training**

Practical training is a basic requirement for the Bachelor of Architecture program. The department directs its students at level six or seven semesters to undertake supervised training in professional practice either in the public or private sector. Consultancy and contracting firms, as well as building project units within institutions co-ordinate with the department to recruit students for the training program for a minimum of 60 days. Upon completion of the training program the student submits a detailed and comprehensive report which is then evaluated by a special committee and a recommendation submitted to the Faculty Board for approval.

The department also has an established system for summer field training for students in foreign countries such as Italy, Germany, Turkey, France and Malaysia working in international offices to gain different professional and cultural experiences. This international training program has proved its success in the student performance. The objectives of the training program as well as the methodology of evaluation of its outcome are periodically reviewed and updated.

**d)**  **Exhibitions, Visiting Lectures &Critics, Symposia**

The enrichment opportunities for students and faculty are extensive and of high quality. Regional and world professional leaders are regularly brought to the program, Symposia such as the conference on Technology and Sustainability in the Built Environment brought architects and environmental experts from Hong Kong, Los Angles and London and indeed from all continents. The proceeding as well as specific list of exhibitions will be available during the NAAB visits as well as the current exhibition titled "Building with Adobe" providing examples from around the world of exceptional cultural and technical accomplishment.

**3.8 Physical Resources**

The University buildings and facilities are under the authority of a central organization of the University and the College of Architecture and Planning is not involved in the decisions regarding its administration. However, it is the university policy to ensure that all physical resources provided to all colleges will surpass the minimum standards. In actual fact, this architecture program can be said to be the best and most equipped program within the GCC, and one of the best in the world. There are ample spaces for design studio, lecture and seminars rooms, as well as laboratories, administration and faculty offices. Each of these is fully furnished with the latest state of the art equipment and facilities that will enhance teaching and learning.

The detail plan of the building is shown on page 26 and the lists of facilities are as follows:

**a. Computer Labs**:

The College has made a very good effort in providing the students and staff with the latest advanced technology in the field of electronic learning. This is reflected in the provision of six computer labs fitted with over two hundred periodically upgraded computer units, equipped with the latest software to support architectural design and planning. The labs also have 8 plotters and 2 scanners of size “A0”.

The computers are linked to a local area network serving the College administration and faculty offices, which are linked to the University Computer Center as well, for internet and intranet services. The center provides all lecture halls, seminar rooms and studios with network connections. Currently the center is preparing an internet lab to provide students with access to the World Wide Web to search for scientific materials.

The computer center offers through a team of specialized staff many courses within the study plan, including GIS, Architectural Design (3), Planning Project (5), PL 312, ARCH 224, ARCH 320, PL 310 and ARCH 420. The center also provides printing services for faculty and students using the latest technologies. The built-up area of the computer lab is 428m2.

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**Table 1 List of Equipment in the Computer Labs.**

|  |  |  |
| --- | --- | --- |
| No. | Equipment’s Name | Number |
| 1. | DELL CPU | 85 |
| 2. | DELL MONITORS | 85 |
| 3. | DTK CPU | 88 |
| 4. | DTK MONITORS | 88 |
| 5. | A3 Scanner – Epson 1000 | 7 |
| 6. | Hanging Projector | 5 |
| 7. | HP Printers | 9 |
| 8. | Plotter (A0 Size) | 8 |
| 9. | Scanners (A0 Size) | 2 |

**b. Thermal Lab, Lighting Lab and Acoustics Lab**

These labs perform the acoustical tests, artificial and natural lighting tests for architectural spaces. Studies are carried out on areas of openings and type of insulation required. Moreover, studies and tests are made for internal spaces, their size and shape, properties of finishing materials and effect of external factors. The built-up area of the thermal lab is 101m2.

The List of Equipment in the Thermal lab, Lighting Lab. and Acoustics Lab are attached in the Supplement. The built-up area for Thermal Lab is 101m2, the Lighting Lab. area is 121.32m2 and the built-up area for the Acoustics Lab. area is98.76m2..

**c. Photographic Lab**

The College photographic lab serves all the College faculty, staff, technicians and students. The lab predominantly uses of digital means, but traditional technology is still retained. Such services include:

* Providing instructions and directions related to the art of photography.
* Development of negatives and slides films and copying of slides.
* Enlargement of photographic images.
* Microfilm shooting and printing.
* Documentation of symposium sessions, public lectures and ceremonies with still photography and video.

Each semester the lab documents students' work by photographing distinguished architectural design and planning projects.

**d. Construction Lab**

The construction lab is equipped with various testing devices to perform the required tests for structures subjected to eccentric loading, bending and shear of simple beams, arches and two-way intersecting grid structures. The lab provides the students with constructive information related to the structural behavior of the building elements subjected to the different forces. Such data and information serve students' knowledge in the related courses. Total floor area of the lab is 60m2.

**e. Building Materials Lab**

Different samples of traditional and modern building materials and components are exhibited. Various tests for strength, stiffness, durability, thermal conductivity, color, assembling and fixing are performed in the lab. Such tests are important for enriching and widening the scope of students in the related subjects. Total floor area of the lab is 175m2.

**f. Structure Lab**

The list of equipment’s in the Structure Lab is shown in the Supplement. Total floor area of the Structure Lab. is 187m2

**g. Transportation and Environmental Studies Lab**

This is the newest lab in the College. The lab is equipped with manual and mechanical devices for traffic counting and vehicles classification according to their size and type, speed, direction and time. Advanced computer network using specialized software are used for analysis of data and results. Also the lab is provided with pollution monitoring devices and measurement of traffic noise. Total floor area is 121m2.

**h. Graphical Presentation and Rendering Unit**

The unit and its artistic staff provide various services for students and faculty. It aims to develop the artistic skills of students by giving the right advice and consultation on the type of graphic presentation techniques for various project drawings. The unit uses both the traditional manual methods and computer graphics software. The unit designs and produces the College bulletin and symposium pamphlets, and is responsible for arrangement of College exhibitions and production of drawings and other exhibits.Total floor area is 133m2.

1. **Photocopying Unit**

The unit uses advanced photocopying machines to produce lecture handouts, research papers, examination papers and other documents required by the College administration and faculty. Moreover, the unit is equipped with cutting, trimming and binding machines for production of documents. Total floor area is 1100m2.

1. **Model Making Workshop**

The new modern Model Making Workshop is equipped with all the necessary tools used for shaping, cutting, smoothing, trimming, gluing and welding of the various materials used such as timber, metal, plastic, glass etc. Well trained and qualified technician supervise and help student to produce their models. The workshop participates in preparing panels and the necessary hangers for College annual exhibition and help in producing and maintaining panels and partitions.Total floor area is 355m2.

1. **Virtual Reality Lab**

The Virtual Reality Lab (VRLab) is a very advance computer-simulated environments lab that can simulate physical presence in places in the real world, as well as in imaginary worlds. It is extremely useful for research, educational, planning, interior and architectural design purposes as well as demonstration for the public.

It is based on visual / audio experiences, displayed through special stereoscopic displays, including a very advanced tracking system. Furthermore, virtual reality lab provides remote communication environments.

Researchers and students can interact with a virtual environment by wearing special eyewear glasses and through a seven meters curved screen. The curved screen is based on three-chip DLP projection technology. The system is provided with two rear projectors generating an image of 4 million pixels resolution which produce a uniform bright and uniform colored image. In addition, the system includes a stereo capable professional graphics workstation as master system. It has a high-end graphics card with RAID functionality for data redundancy. Total floor area of the lab is 142m2.

**3.9 Information Resources**

The Prince Salman Library plays a central role to enable KSU to attain an information-rich environment needed in the education of students and the promotion of intellectual, personal and social growth of the whole university community. The commitment of the library is to foster academic inquiry, scholarly communication, and life-long learning by collecting, organizing, and disseminating information to its users. These are essential for the promotion of information and critical thinking skills that are critical to teaching, scholarship research and professional training. The details are as follows:

1. **Public Libraries:** students in the program have access to valuable resources through two public libraries.
   1. **Central Library**(Over two million volumes and online accessibility)
      1. Manuscripts
      2. Thesis
      3. KSU Journals
      4. Academic publishing
   2. **College Library**
      1. 8000 new volumes of professional books
      2. 54 international periodicals
      3. 41 Arabic periodicals.
      4. Master thesis and doctoral dissertations.
2. **Studio Libraries (proposed)**
   1. Reference and handbooks.
   2. Architectural journals and magazines.
   3. Sample of students works
      1. Previous projects.
      2. Case studies analysis.
      3. Architectural programs.
3. **Documentation Center:** containing various digital material i.e.:
   1. Books, journals, reports, unpublished thesis and dissertations.
   2. GIS library: containing satellite images, aerial photos, base maps, digitized projects.
   3. Slide libraries mainly for history and theory of architecture
   4. Educational and documentary movies:
      1. Architecture pioneers.
      2. Famous buildings.
      3. Construction techniques
   5. Building products and material catalogues (CDs and DVDs):
   6. Local and international competitions.
   7. Events documentation and photo library:
      1. Conferences
      2. Exhibitions
      3. Visits
      4. Juries
   8. Student works
      1. Projects
      2. Reports
      3. Research
      4. Architecture Programs (for each studio)

**D. Faculty Web Pages:** containing ample information related to:

1. Staff resumes, publications, and research interests.
2. Course descriptions, objectives, performance criteria and requirements
3. Lectures’ notes and presentations.
4. Samples of student works.
5. Web-based educational resources and links.

**E. Research Center:** to support basic and applied research and provide consultations required by the community. In addition, it supervises research carried out by the teaching staff in the college.

**F. Research Chairs:**

a. King Abdullah bin Abdulaziz Foundation's Chair for Developmental Housing Research

The Research Chair is dedicated to specialized scientific and applied studies and research on housing and housing developing issues such as affordable housing, environmental sustainability, improving the qualities of houses and reducing their cost and developing the urban environment of housing projects etc.

b. Prince Sultan bin Salman Chair for Architectural Heritage

This research chair emphasizes on scientific research related to preservation of cultural heritage.

**G. Other On-line Resources:** all staff, students, and employees workstations are linked to the university’s internet services through secured accounts, thus enabling services such as

a)E-mail accounts and services

b)Access to different university units and services.

c)Secured access to international scientific digital libraries

d) E-Learning resources.

**3.10 Financial Resources:**

The program of Architecture and Building Sciences is highly supported financially by the University. This can be evidenced fromfaculty hiring policy, furnishing of studio and labs with the latest technological facilities, inviting visiting professors from abroad and supporting the training program for the students to different countries in each summer. The training program includes to Italy, Germany, Turkey, France and Malaysia.

Also, the department has its own means of raising funds from different sources such as from the projects and consultancy services, from institutional and companies that have strong relationship with the architecture program, from the academic and research center as the program has two chairs for research, one in affordable housing and the other in architectural heritage.

**Students and Faculty**

A general overview of financial resources clearly establishes that on a comparative basis the program is supported significantly better than most international programs. Students are supported financially with monthly stipend, accommodation and travel allowances. Basic salaryof faculty member exceeds the international standards and there is an annual increment of about 5%. In addition to basic salary, faculty members are also paid transportation and accommodation allowances and are duly compensated for additional teaching load, research or assignments. Special payments for expatriate staffs include international air travel tickets and payment of school tuition fees for their children. Health benefits and assurances are provided for all students and staff members. The comparisons of faculty salaries according to rank are shown in the table on page 31.

**Comparisons of faculty salary\* according to rank**

|  |  |  |  |
| --- | --- | --- | --- |
| Staff Category | Average Salary | Highest Salary | Lowest Salary |
| Professor | 31,697 | 40,783 | 17,167 |
| Associate Professor | 26,836 | 35,021 | 15,273 |
| Assistant Professor | 21,799 | 32,288 | 12,975 |
| Lecturer | 15,203 | 19,876 | 8,430 |
| Teaching Assistant | 11,446 | 14,488 | 8,489 |

**\***figures in Saudi Riyal (1 USD = 3.75SR)

**Facilities and Equipment**

As presented previously, the facilities are exceptional in terms of adequate space and the maintenance by the university staff is also exceptional. The College of Architecture and Planning has recently invested over two and a half million dollars in new furniture, computers, laboratory and shop equipment and a virtual realty visualization laboratory.

**General Operating**

The general operating budget of the Department of Architecture and Building Sciences is almost three hundred thousand dollars per year for general and fixed supplies and operations.

**Research Center and Chaired Professorships**

The Research Center and Information received almost two hundred thousand dollars for the operation of this critical center from the university. The research mission of the institution is increasing and the college has also received two research professorships to support this mission.

The King Abdullah Foundation Chair for Developmental Housing has been established to conduct research in this critical area of development. The Prince Sultan Bin Salman Chair for Architectural Heritage is another critical area of research and cultural preservation in the context of a rapidly developing country.

**Consultations and Competitions**

The faculty is often engaged in winning national and international competitions such as those mentioned previously in Mecca and Medina. These competitions and related consultancies through research and professional have averaged between a million and a half to almost the three million dollars per year. These resources are significant in their support of the activities of the faculty and student professional education.

**International Summer Training Program**

This International Summer Training Program is supported by the university and represents a significant investment in the faculty and students. To date these programs have been established in Italy, Germany, Turkey, France and Malaysia. The experiences have been exceptional opportunities for the professional and cultural development of the students.

**Special Donations**

The Department of Architecture and Building Scienceshas extensive connections with professional offices, governmental agencies,the construction industry and product suppliers. While donations vary from year to year they have averaged almost nine hundred thousand dollars per year. Thesedonations support a wide variety of student studio and special projects.

**3.11 Administrative Structure**

By virtue of its position as one of the three best colleges in the University, both the architecture program and the College of Architecture and Planning enjoyed an excellent relation and strong support from the university Rector. This reputation entails bigger yearly budget and generous support from the university administration.

The administrative structure of the College of Architecture and Planning revealed that there are very clear lines of responsibility and communication. The recent addition of the office of the Vice Dean for Development and Quality has also been accomplished with the clear roles and responsibilities as a key component of the overall structure of administration.

In terms of administration, the architecture program is headed by a Chairman. Overall policies related to the program and the Department of Architecture and Building Sciences are administered through its Departmental Council which has regular meetings. The Department Council is governed by the College Council. The two councils work in full harmony and agreement. The reductions of centralization of power are achieved through the delegation of some jurisdictions to the Departmental Councils. This increases flexibility and speed up the process of decision making.

The culture of strategic planning within the department is promoted by broadening the Departmental Councils authorities to take decision that serve the strategic planning through the participation of faculty and students’ representatives, as well as using regular survey of opinions to maximize participation. The organization structure of administration for the College of Architecture and Planning is shown on page 33.

The following bodies are under direct authority of the Dean, College of Architecture and Planning:

* Board of College of Architecture and Planning,
* Vice Dean for Research and Graduate Studies,
* Vice Dean for Academic Affairs,
* Vice Dean for Development and Quality,
* Head, Department of Architecture and Building Sciences,
* Head, Department of Urban Planning,
* Journal of KSU (Architecture and Planning) Editor in Chief,
* College Board Committee.

The authorities of the Vice-Dean for Research and Graduate Studies include the following:

* Director of Administrative and Financial Affairs
* Guardians of student activities (social, cultural and sports),
* Technical committee for securing college needs,
* Committee for symposiums, training sessions and exhibitions,
* Committee for the preparation of college annual report,
* Committee for furnishing the new college building,
* Technicians training committee,
* Safety and security committees,
* College warehouses and stores,
* Propose disciplinary actions dealing with cases of absentees of college staff,
* Preparation of data required for annual college budget to various units,
* Supervision of administrative performance of college employees.

**College Organizational Structure**

The authorities of the Vice Dean for Academic Affairs include the following:

* College Registrar,
* Student affairs committee (social, cultural and sports).
* Study Plan committee,
* Student registration committee,
* Students summer training committee,
* Examination committee,
* Teaching load schedules and examinations time table committee.
* Subjects equivalence committee.
* Post graduate studies committee,
* Sponsorship of outstanding students.

The authorities of the Vice-Dean for Development and Quality include the following:

* Quality and accreditation committee,
* Director of Quality and Accreditation Units.
* Director of Development unit,
* Director of documentation and information unit.

Chairman of Departments are granted the following authorities:

* + Faculty and teaching staff of the department.
  + Department Board.
  + Department Committees
  + Administrators and employee of the department.
  + Department laboratories and workshops.

**Organization Structure of**

**The College of Architecture and Planning**



**3.12 Professional Degrees and Curriculum**

The Department of Architecture and Building Sciences was first established in 1967/1968G (1387H) as a department within the College of Engineering at King Saud University. In 1984, under Royal Decree, the College of Architecture and Planning was established and the Department of Architecture and Building Sciences was independent of the College of Engineering for good.

Prospective students applying into the King Saud University’s College of Architecture and Planning requires a high school General Certificate of Education (Science Option) with a minimum 90% pass grade as decided by the College Council. The candidate is also required to pass an aptitude and skills test held by the College to qualify for admission.

The initial curriculum for the program of architecture was based on studies done on a number of colleges of architecture in the United States of America, by a group of professors from King Saud University. The curriculum was founded on the reasoning that design studies, liberal Studies, technology studies, and social studies, have a compounding influence on the intellectual and professional ethics of architects. The course work covers the range of topics that is critical to the understanding of the profession. This includes studies of design and creativity, building systems and building elements, technology and its applications in architecture, theories and philosophies of architecture and art, professional practice and building by-laws. Given all that, plus an offering of a wide range of electives offered throughout the Colleges and Departments within the University system, graduates of this program have a good spread of diverse knowledge to serve both their social and professional obligations.

Being situated in the capital city of Riyadh, King Saud University’s Department of Architecture is ideally located to draw a constant row of guest critics, adjunct faculty, or experienced professionals from all over the world. Students of the King Saud University’s Architecture program, is taught by a mix of highly qualified and experienced academicians from local and international origins. The architecture faculty is also well endowed with a experienced practitioners, who are concerned with educating these students with a balanced theoretical, technical, professional and creative knowledge in the civic, social, and professional realms of architecture.

Graduates of the King Saud University College of Architecture and Planning are educated and all set to take up careers in architecture and a wide range of other design, construction, or other architecture-related professions or business. The uniqueness of the practice of architecture in Saudi Arabia requires no licensing examination or legal registration as exists elsewhere. The system is dependent upon the educational systems provided by the local university’s colleges of architecture to produce qualified architects. However, there are related umbrella organizations like the Saudi Council of Engineers where many of the nation’s architects are registered with. By virtue of its history and humble beginnings in the College of Engineering, the professional tie between engineers and architects seem well established. The Architect community has an effective form of ruling regarding professional practice.

The Al-Umran Saudi Association (The Saudi Society for Urban Science) is a local endeavor established by the faculty of the College of Architecture and Planning. The association is affiliated with the Paris based UIA (International Union of Architects). The association is a scientific organization managing the various areas of architectural science for the purpose of creating distinctive models for the local urbanization environment in a way complying with the social obligations for the betterment of society in the region. All students and faculty are members of this association, by virtue of the College of Architecture and Planning. It is the organization for the Architectural and academic community that is vigorously involved in various professional issues pertaining to architecture and urbanism, and also architectural programs for the community.

Special committees within the Department of Architecture and Building Sciences was set up to review and develop the study program for the Bachelor of Architecture degree, and subsequently approved by the Departmental Board in its 12th session of the academic year 2002/03G (1423/24H). The program curriculum was last reviewed in the 2009/2010 academic year with the objective of ensuring quality and meeting with the professional demands, while keeping abreast with the advancements in technology and

to prepare students for “globalization” in the new millennium. The Department of Architecture and Building Sciences awards its graduates the degree of Bachelor of Architecture upon successful completion of 170 credit hours prescribed in the study plan for the program (page 39). The Department also offers a Master of Architecture degree (M.Sc.), as well as a Doctor of Philosophy in Architecture (Ph.D.) which commenced in the academic year 2003-04G (1425/26H).

Being the pioneer school of architecture in the Arabian Peninsula and the Gulf region, its graduates represent the leading generation of architects and planners in the Kingdom. Some of its pioneer graduates helped establish new schools and colleges of architecture in other regions of the Kingdom, some others are holding senior portfolios in the government, while others are successful individuals in private and professional sectors. All in all the graduates of King Saud University’s College of Architecture and Planning are currently in diverse positions of significance in service to the community and in nation building.

**Outline of the Curriculum for Bachelor of Architecture.**

The academic curriculum of the Architecture program at King Saud University is regularly reviewed. The present study program is the result of such a comprehensive review done in 2009/2010. The development is discussed below.

The Bachelor of Architecture Program comprises two basic components: the "foundation/ theoretical curriculum" and the "professional/social curriculum". Both curricula aim at reinforcing and developing the students' ability in knowledge, skill personality and professionalism. The study Plan essentially contributes towards the fulfillment of the both academic and social realms.

The structural organization of the study plan is founded on the following bases:

**A. Knowledge and training component**:

The reviewed plan is designed to comprise the following basic knowledge and training aspects:

* Basic Skills and Design.
* Science and Technology.
* History, Theory and Humanities.
* Languages and Islamic Culture.

The design and Skills component is considered to be the backbone of the study plan accounting for 34% of the credit hours and 46% of the contact hours.

Field training in Professional Practice is an important requirement of the Bachelor Program. The study Plan prescribes a training period of not less than 60 days in a reputed establishment, set directly after the sixth semester level.

**B. Common semester levels:**

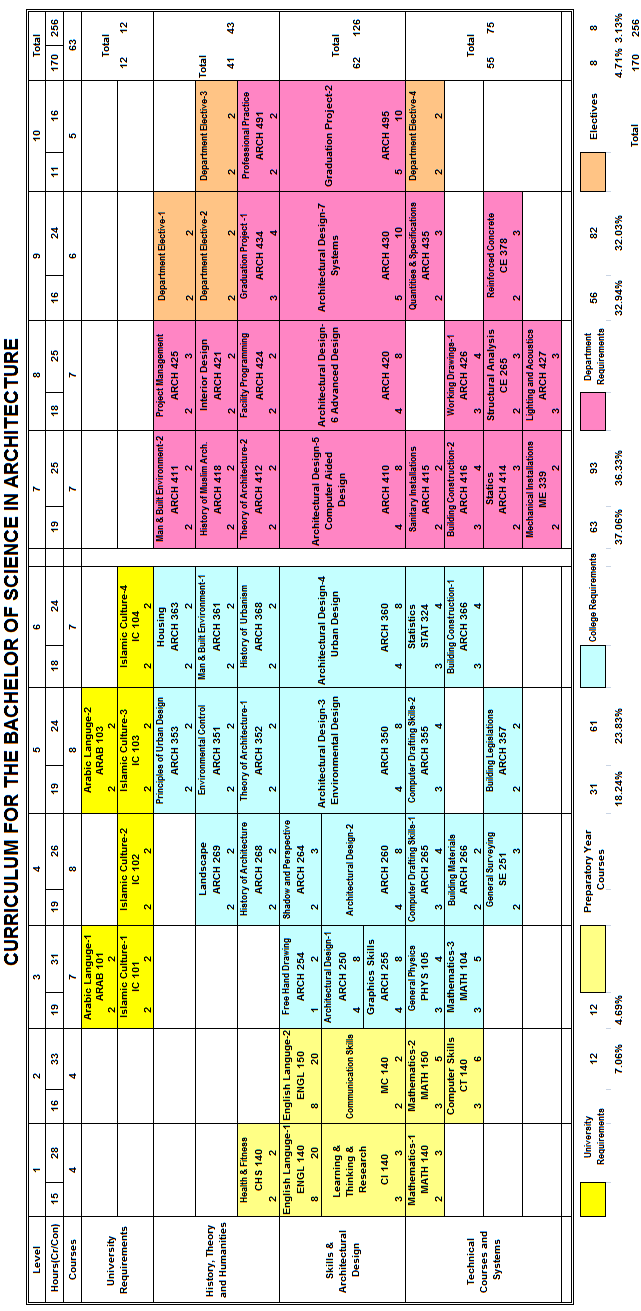
The study plan dedicates the first four semester levels to common courses shared by the Department of Architecture and Building Science, and the Department of Urban Planning. This is followed by Architecture specialization courses for the six remaining semester levels, which include specialized block option courses concentrated in the last four semesters.

The establishment of four common semester levels in the first four (4) semesters for all students before they stream into architecture or planning specialization is due to the following reasons:

* Optimum utilization of material, spatial and human resources in the college.
* Reinforcement of common knowledge and enhancing cooperation amonggraduates of both specializations, through maximum contact period of study and contact with faculty members.

This period of time also allows freshly enrolled students ample time to comprehend the various specializations in the college before deciding on a specialization.





**C. Field and practical training**:

The field training is allocated between the sixth and seventh semester levels. Students in the architecture program undertake practical training in professional offices in foreign locations in Europe and the Far-East to observe and gain experiences from the different cultural environment and different practice ethics:

* To expose students to the more practical aspects of architecture in a professional environment;
* To interact in a professional office environment, while enhancing creativity, skills, and the practical aspects of the profession.
* To enhance the students’ creativity, knowledge and skills and be able to promote such abilities in the coming semesters before graduating.

**Study Plan Description**

Students are required to successfully pass 170 credit hours of study period and 60 days of summer training in an office, to graduate. This can be accomplished during ten semesters (five years);

Distribution of course units are as distributed in the table that follows:

**Table 1: Overall Distribution of Course**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Requirements** | **No. of courses** | **Credit Hrs.** | **%** | **Contact Hrs.** | **%** |
| 1 | University | 6 | 12 | 7.06 % | 12 | 4.7% |
| 2 | Preparatory Year | 8 | 31 | 18.24 % | 61 | 23.9% |
| 3 | College | 24 | 63 | 37.06 % | 93 | 36.3% |
| 4 | Department | 21 | 56 | 32.94 % | 82 | 32.0% |
| 5 | Block option | 4 | 8 | 4.70 % | 8 | 3.1% |
| **Total** |  | **63** | **170** | **100%** | **256** | **100%** |

Table 2: University Requirements

|  |  |  |  |
| --- | --- | --- | --- |
| Credit Hrs. | Course Name | Course ID Code |  |
| 2 | Language skills | ARAB 101 | 1 |
| 2 | Expository Writing | ARAB 103 | 2 |
| 2 | Introduction to Islamic Culture | IC 101 | 3 |
| 2 | Islam and the construction of Society | IC 102 | 4 |
| 2 | The Islamic Economic System | IC 103 | 5 |
| 2 | Foundations of Islamic Political System | IC 104 | 6 |
| **12 (12)** | **Total** | | |

Table 3: Preparatory Year Requirements

|  |  |  |  |
| --- | --- | --- | --- |
| Credit Hrs. (Contact Hrs.) | Course Name | Course ID Code |  |
| 1 | Health & Fitness | CHS 150 | 1 |
| 8 | English Language 1 | ENG 140 | 2 |
| 8 | English Language 2 | ENG 150 | 3 |
| 3 | Learning, Thinking &Research Skills | CI 140 | 4 |
| 2 | Communication Skills | MC 140 | 5 |
| 2 | Mathematics 1 | MATH 140 | 6 |
| 3 | Mathematics 2 | MATH 150 | 7 |
| 3 | Computer skills | CT 140 | 8 |
| 1 | Entrepreneurship | ENT 101 | 9 |
| **31 (61)** | **Total** | | |

Table 4: College Requirements

|  | Course ID | Course Name | Credit Hrs. (Contact Hrs.) | Prerequisites |
| --- | --- | --- | --- | --- |
| 1 | MATH 104 | Mathematics 3 | 3 | - |
| 2 | PHYS 105 | General Physics | 3 | - |
| 3 | ARCH 250 | Architectural Design 1 | 4(0+8 Studio) | - |
| 4 | ARCH 254 | Free Hand Drawing | 1(0+2 Studio) | - |
| 5 | ARCH 255 | Graphics Skill | 4(0+8 Studio) | - |
| 6 | ARCH 260 | Architectural Design 2 | 4(0+8 Studio) | ARCH 250  ARCH 255 |
| 7 | ARCH 264 | Shadow & Perspective | 2(1+2 Studio) | ARCH 254  ARCH 255 |
| 8 | ARCH 265 | Computer Drafting Skills 1 | 3(0+3 Studio) |  |
| 9 | ARCH 266 | Building Materials | 2 | - |
| 10 | ARCH 268 | History of Architecture | 2 | - |
| 11 | ARCH 269 | Landscape | 2 | - |
| 12 | ARCH 350 | Architectural Design 3 | 4(0+8 Studio) | ARCH 260 |
| 13 | ARCH 351 | Studies in Environmental Control | 2 | PHYS 105 |
| 14 | ARCH 352 | Theory of Architecture 1 | 2 | - |
| 15 | ARCH 353 | Principles of Urban Design | 2 | - |
| 16 | ARCH 355 | Computer Drafting Skills 2 | 3 | ARCH 265 |

| 17 | ARCH 357 | Building Legislations | 2 | - |
| --- | --- | --- | --- | --- |
| 18 | ARCH 360 | Architectural Design 4 | 4(0+8 Studio) | ARCH 350 |
| 19 | ARCH 361 | Man andBuilt Environment 1 | 2 | - |
| 20 | ARCH 363 | Housing | 2 | - |
| 21 | ARCH 366 | Building Construction 1 | 3(2+2 Studio) | ARCH 266 |
| 22 | ARCH 368 | History of Urbanism | 2 | - |
| 23 | SE 251 | Surveying for Non Engineers | 2 | - |
| 24 | STAT 324 | Statistics | 3 | - |
| **Total** | | | **(63) 93** |  |

Table 5: Department Requirements

|  | Course ID | Course Name | Credit Hrs. (Contact Hrs.) | Prerequisites |
| --- | --- | --- | --- | --- |
| 1 | ARCH 410 | Architectural Design-5 | 4(0+8 Studio) | ARCH 355 ARCH 360 |
| 2 | ARCH 411 | Application of Humanities | 2 | ARCH 361 |
| 3 | ARCH 412 | Theory of Architecture 2 | 2 | ARCH 352 |
| 4 | ARCH 414 | Statics and Strength of Materials | 2(1 + 2 Studio) | PHYS 105 |
| 5 | ARCH 415 | Sanitary Installations | 2 | ARCH 366 |
| 6 | ARCH 416 | Building Construction 2 | 3(2+2 Studio) | ARCH 366 |
| 7 | ARCH 418 | History of Muslim Architecture | 2 | ARCH 268 |
| 8 | ARCH 420 | Architectural Design-6 | 4(0+8 Studio) | ARCH 410 |
| 9 | ARCH 421 | Interior Design | 2 | - |
| 10 | ARCH 424 | Facility Programming | 2 | - |
| 11 | ARCH 425 | Contracts, Quantities, and Specifications | 2(1+2 Studio) | ARCH 416 |
| 12 | ARCH 426 | Working Drawings | 3(2+2 Studio) | ARCH 416 |
| 13 | ARCH 427 | Lighting & Acoustics | 3 | PHYS 105 |
| 14 | ARCH 430 | Architectural Design-7 | 5(0+10 Studio) | ARCH 420 ME 339 CE 265 |

| 15 | ARCH 434 | Graduation Project 1 | 3(2+2 Studio) | ARCH 420  ARCH 424 |
| --- | --- | --- | --- | --- |
| 16 | ARCH 435 | Project Management | 2 | ARCH 425 |
| 17 | ARCH 491 | Professional Practice in Architecture | 2 | - |
| 18 | ARCH 495 | Graduation Project 2 | 5(0+10 Studio) | ARCH 430 |
| 19 | CE 265\* | Structural Analysis for Arch. | 2(2+1) | ARCH 414 |
| 20 | CE 378\* | Design of Reinforced Concrete Structures | 2(2+1) | CE 265 |
| 21 | ME 339\* | Mechanical Installations | 2 | - |
| **Total** | | | **56 (82)** |  |

\* Courses offered by College of Engineering

**Table 6: Practical Training (Optional Requirement)**

| 1 | 999 ARCH | Practical Training | 0 | - |
| --- | --- | --- | --- | --- |

Block Options

# Table 7: Architectural Design Option

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Course ID | Course Name | Credit Hrs. | Prerequisites |
| 1 | ARCH465 | Application of Humanities in Architecture | 3 | - |
| 2 | ARCH 466 | Form and Structure in Architecture | 3 | - |
| 3 | ARCH 475 | Contemporary Theories of Architecture | 3 | - |
| 4 | ARCH 485 | Vernacular Architecture | 2 | - |
| Total | | | 11 |  |

**Table 8: Building Science Option**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Course ID | Course Name | Credit Hrs. | Prerequisites |
| 1 | ARCH 467 | Working Drawings | 3 | - |
| 2 | ARCH 468 | Structural Systems in Architecture | 3 | - |
| 3 | ARCH 477 | Computer-Aided Concrete Structure Design | 3 | CE 378 |
| 4 | ARCH 487 | Modern Construction Techniques | 2 | - |
| Total | | | 11 |  |

**Table 9: Electives 1**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Course ID | Course Name | Credit Hrs. | Prerequisites |
| 1 | ARCH 431 | Advanced Computer Applications | 2 | - |
| 2 | ARCH 432 | History of Interior Design & Furniture | 2 | - |
| 3 | ARCH 433 | Urban Design Skills | 2 | - |
| 4 | ARCH 436 | Contemporary Construction Techniques | 2 | - |
| 5 | ARCH 437 | Bldg. Perform Evaluation - CAD | 2 |  |
| 6 | ARCH 438 | Vernacular Architecture | 2 |  |
| 7 | ARCH 439 | Project Management Law | 2 |  |
| Total | | | 14 |  |

**Table 10: Electives 2**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Course ID | Course Name | Credit Hrs. | Prerequisites |
| 1 | ARCH 441 | Form & Structure | 2 | - |
| 2 | ARCH 442 | Furniture Design & Internal Treatments | 2 | - |
| 3 | ARCH 443 | Theory of Urban Design | 2 | - |
| 4 | ARCH 446 | Advanced Structural Systems in Architecture | 2 | - |
| 5 | ARCH 447 | Building Integrated Renewable Energy | 2 |  |
| 6 | ARCH 448 | Islamic Architecture | 2 |  |
| 7 | ARCH 449 | Project Administration | 2 |  |
| Total | | | 14 |  |

**Table 11: Electives 3**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Course ID | Course Name | Credit Hrs | Prerequisites |
| 1 | ARCH 451 | Art Appreciation | 2 | - |
| 2 | ARCH 472 | Materials & Textiles | 2 | - |
| 3 | ARCH 463 | Cities in Environmental Perspective | 2 | - |
| 4 | ARCH 456 | Building Economics for Architecture | 2 | - |
| 5 | ARCH 457 | Sustainability in the Built Environment | 2 |  |
| 6 | ARCH 458 | Urban Sites Restoration | 2 |  |
| 7 | ARCH 459 | Advanced Project Management | 2 |  |
| Total | | | 14 |  |

**Table 12: Electives 4**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Course ID | Course Name | Credit Hrs. | Prerequisites |
| 1 | ARCH 461 | Architectural Criticism | 2 | - |
| 2 | ARCH 482 | Advanced Lighting Technique | 2 | - |
| 3 | ARCH 473 | Cities in Social Perspective | 2 | - |
| 4 | ARCH 476 | Computer Appl. in Reinforced Concrete | 2 | - |
| 5 | ARCH 471 | Bldg. Energy Conservation & Management | 2 |  |
| 6 | ARCH 478 | Architecture Restoration | 2 |  |
| 7 | ARCH 469 | Facilities Management | 2 |  |
| Total | | | 14 |  |

**3.13 Student Performance Criteria**

The curriculum of the Program of Architecture and Building Sciences is designed to offer the students a balanced knowledge and skills between design, humanities and technical and practical courses.

The main stream of courses is the 8 design studio experience which has two (2) wings; humanities courses from one side and technical and practical courses from the other side. The courses are organized as follows:

**Preparatory Year Study Plan (The Study Plan for Engineering and Scientific Track):**

English Language Skills,

Computer skills,

Learning, Thinking and Research skills,

and

Entrepreneurship,

Health and Fitness,

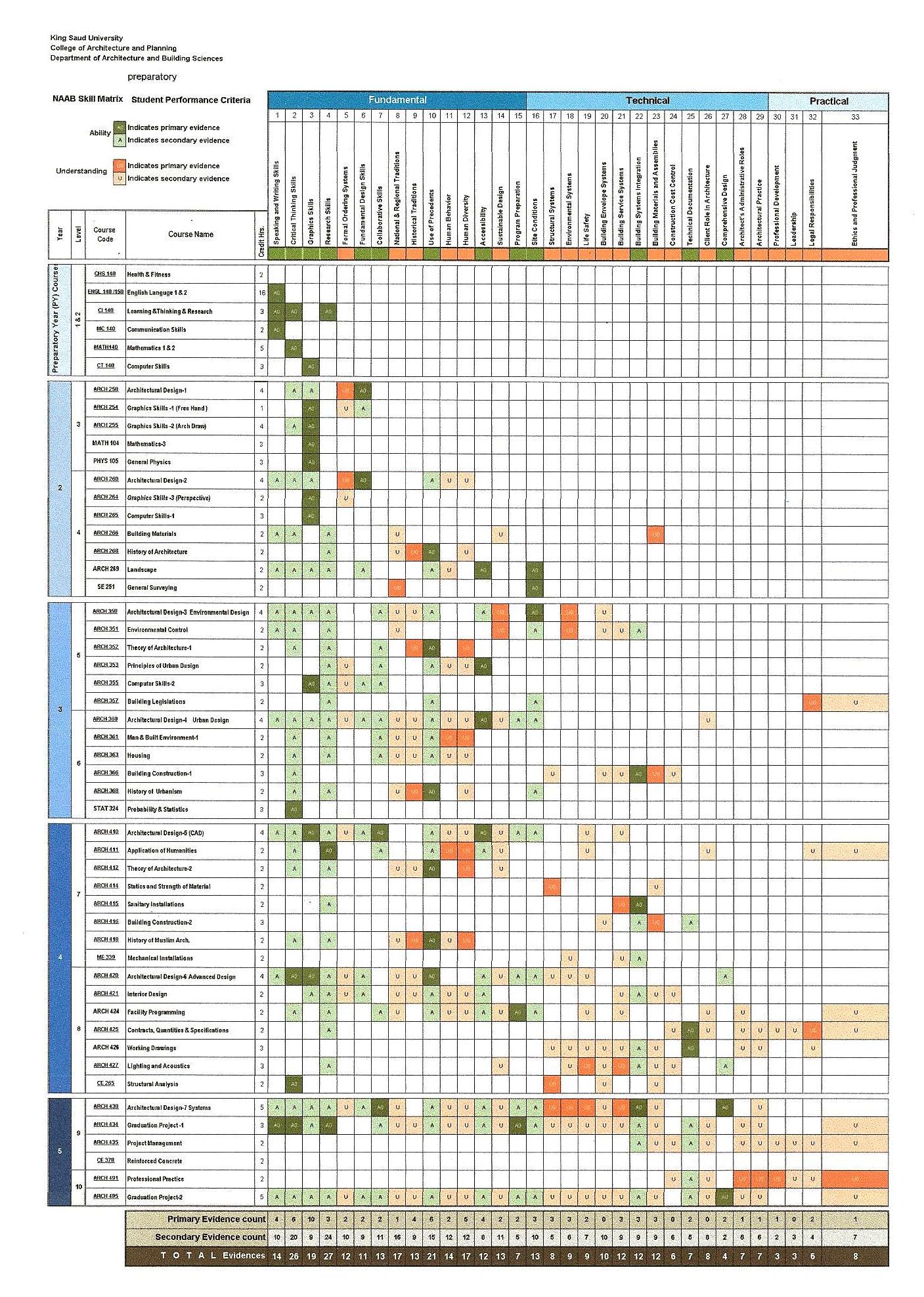
Mathematics

The Preparatory Year is followed by two (2) foundation years as College requirements, comprising mainly of architecture related courses. This is then followed by another two (2) years of specialized courses in architecture.

The main objectives of the professional degree program are to equip graduates with all requisite knowledge and skills which will enable them for direct entry into the profession of architecture at the local, regional and international levels.

In this respect it is very important to accomplish the Student Performance Criteria addressed by NAAB. The following is an account of how each criterion is achieved in the curriculum.





|  |  |
| --- | --- |
| **1. Speaking and Writing Skills**    **Primary Course Evidence**  ENGL140/150 English language 1 & 2  CI140 Learning & Thinking & Research  MC140 Communication Skills  ARCH 434 Graduation Project -1  **Secondary Course Evidence**  ARCH 260 Architectural Design-2  ARCH 266 Building Materials  ARCH 269 Landscape  ARCH 350 Architectural Design-3  Environmental Design  ARCH 351 Environmental Control  ARCH 360 Architectural Design-4  Urban Design  ARCH 410 Architectural Design-5(CAD)  ARCH420 Architectural Design-6  Advanced Design  ARCH 430 Architectural Design-7 Systems  ARCH495 Graduation Project-2  **2. Critical Thinking Skills**  **Primary Course Evidence**  CI140 Learning & thinking & Research  MATH140 Mathematic 1 & 2  ARCH420 Architectural Design-6  Advanced Design  ARCH434 Graduation Project-1  **Secondary Course Evidence**  ARCH 250 Architectural Design-1  ARCH 255 Graphics Skills-2(Arch Draw)  ARCH 260 Architectural Design-2  ARCH 266 Building Materials  ARCH 269 Landscape  ARCH 350 Architectural Design-3  Environmental Design  ARCH 351 Environmental Control  ARCH352 Theory of Archtecture-1  ARCH 360 Architectural Design-4  Urban Design  ARCH361 Man & Built Enviroment-1  ARCH363 Housing  ARCH366 Building Construction-1  ARCH368 History of Urbanism  ARCH360 Architectural Design-4 Urban  Design  ARCH361 Man & Built Environment-1  ARCH363 Housing  ARCH368 History of Urbanism  ARCH410 Architectural Design-5(CAD)  ARCH412 Theory of Architecture-2  ARCH415 Sanitary Installations  ARCH418 History of Muslim Arch.  ARCH420 Architectural Design-6 Advanced Design  ARCH421 Interior Design  ARCH424 Facility Programming  ARCH425 Contracts, Quantities & Specifications  ARCH427 Lighting and Acoustics  ARCH430 Architectural Design-7 Systems  ARCH495 Graduation project-2  **5. Formal Ordering Systems**  **Primary Course Evidence**  ARCH250 Architectural Design-1  ARCH260 Architectural Design-2  **Secondary Course Evidence**  ARCH254 Graphics Skills-1 (Free Hand)  ARCH264 Graphics Skills-3(Perspective)  ARCH353 Principles of Urban Design  ARCH355 Computer Skills -2  ARCH360 Architectural Design-4 Urban Design  ARCH410 Architectural Design-5(CAD)  ARCH420 Architectural Design-6 Advanced Design  ARCH421 Interior Design  ARCH430 Architectural Design-7 Systems  ARCH495 Graduation Project-2    **6. Fundamental Design Skills**    **Primary Course Evidence**  ARCH250 Architectural Design-1  ARCH260 Architectural Design-2  **Secondary Course Evidence**  ARCH254 Graphics Skills-1(Free Hand)  ARCH269 Landscape  ARCH355 Computer Skills-2  ARCH268 History of Architecture  ARCH352 Theory of Architecture-1  ARCH368 History of Urbanism  ARCH418 History of Muslim Architecture  **Secondary Course Evidence**  ARCH350 Architectural Design-3  Environmental Design  ARCH360 Architectural Design-4 Urban  Design  ARCH361 Man & Built Environment-1  ARCH363 Housing  ARCH412 Theory of Architecture-2  ARCH420 Architectural Design-6  Advanced Design  ARCH421 Interior Design  ARCH434 Graduation Project-1  ARCH495 Graduation Project-2    **10. Use of Precedents**  **Primary Course Evidence**  ARCH268 History of Architecture  ARCH352 Theory of Architecture-1  ARCH368 History of Urbanism  ARCH412 Theory of Architecture-2  ARCH418 History of Muslim Architecture  ARCH420 Architectural Design-6  Advanced Design  **Secondary Course Evidence**  ARCH260 Architecture Design-2  ARCH269 Landscape  ARCH350 Architectural Design-3  Environmental Design  ARCH353 Principles of Urban  Design  ARCH357 Building Legislations  ARCH360 Architectural Design-4 Urban  Design  ARCH361 Man & Built Environment-1  ARCH363 Housing  ARCH410 Architectural Design -5(CAD)  ARCH411 Application of Humanities  ARCH421 Interior Design  ARCH424 Facility Programming  ARCH430 Architectural Design-7 Systems  ARCH434 Graduation Project-1  ARCH495 Graduation Project-2  **Secondary Course Evidence**  ARCH350 Architectural Design-3  Environmental Design  ARCH411 Application of Humanities  ARCH420 Architectural Design-6  Advanced Design  ARCH421 Interior Design  ARCH424 Facility Programming  ARCH430 Architectural Design-7 Systems  ARCH434 Graduation Project-1  ARCH495 Graduation project-2  **14. Sustainable Design**  **Primary Course Evidence**  ARCH350 Architectural Design-3  Environmental Design  ARCH351 Environmental Control  **Secondary Course Evidence**  ARCH266 Building Materials  ARCH360 Architectural Design-4 Urban  Design  ARCH410 Architectural Design-5(CAD)  ARCH411 Application of Humanities  ARCH412 Theory of Architecture-2  ARCH420 Architectural Design-6  Advanced Design  ARCH424 Facility programming  ARCH427 Lighting and Acoustics  ARCH430 Architectural Design-7 Systems  ARCH434 Graduation Project-1  ARCH495 Graduation project-2  **15. Program Preparation**  **Primary Course Evidence**  ARCH424 Facility programming  ARCH434 Graduation Project  **Secondary Course Evidence**  ARCH360 Architectural Design-4 Urban Design  ARCH410 Architectural Design-5(CAD)  ARCH420 Architectural Design-6  Advanced Design  ARCH430 Architectural Design-7 Systems  ARCH495 Graduation Project-2  **19. Life Safety**  **Primary Course Evidence**  ARCH427 Lighting and Acoustics  ARCH430 Architectural Design-7 Systems  **Secondary Course Evidence**  ARCH410 Architectural Design-5(CAD)  ARCH411 Application of Humanities  ARCH420 Architectural Design-6  Advanced Design  ARCH424 Facility Programming  ARCH426 Working Drawings  ARCH434 Graduation Project-1  ARCH495 Graduation Project-2  **20. Building Envelope Systems**  **Secondary Course Evidence**  ARCH350 Architectural Design-3  Environmental Design  ARCH351 Environmental Control  ARCH366 Building Construction-1  ARCH416 Building Construction-2  ARCH426 Working Drawings  ARCH427 Lighting and Acoustics  ARCH430 Architectural Design-7 Systems  ARCH434 Graduation Project-1  ARCH495 Graduation Project-2  **21. Building Service Systems**    **Primary Course Evidence**  ARCH415 Sanitary Installations  ARCH427 Lighting and Acoustics  ARCH430 Architectural Design-7 Systems  **Secondary Course Evidence**  ARCH351 Environmental Control  ARCH366 Building Construction-1  ARCH410 Architectural Design-5(CAD)  ME 339 Mechanical Installations  ARCH421 Interior Design  ARCH424 Facility Programming  ARCH426 Working Drawings  ARCH434 Graduation Project-1  ARCH495 Graduation Project-2  **26. Client Role in Architecture**  **Secondary Course Evidence**  ARCH360 Architectural Design-4 Urban Design  ARCH411 Application of Humanities  ARCH424 Facility Programming  ARCH425 Contracts, Quantities and Specifications  ARCH434 Graduation Project-1  ARCH435 Project Management  ARCH491 Professional Practice  ARCH495 Graduation Project-2  **27. Comprehensive Design**  **Primary Course Evidence**  ARCH430 Architectural Design-7 Systems  ARCH495 Graduation Project-2  **Secondary Course Evidence**  ARCH420 Architectural Design-6 Advanced Design  ARCH427 Lighting and Acoustics  **28. Architect's Administrative Roles**  **Primary Course Evidence**  ARCH491 Professional Practice  **Secondary Course Evidence**    ARCH424 Facility Programming  ARCH425 Contracts, Quantities and  Specifications  ARCH426 Working Drawings  ARCH434 Graduation Project-1  ARCH435 Project Management  ARCH495 Graduation Project-2  **29. Architectural Practice**  **Primary Course Evidence**  ARCH491 Professional Practice  **Secondary Course Evidence**  ARCH425 Contracts, Quantities and  Specifications  ARCH426 Working Drawings  ARCH430 Architectural Design-7 Systems  ARCH434 Graduation Project-1  IMG_4007 | ARCH410 Architectural Design-5(CAD)  ARCH411 Application of Humanities  ARCH412 Theory of Architecture-2  ARCH418 History of Muslim Arch.  ARCH424 Facility Programming  ARCH430 Architectural Design-7 Systems  ARCH495 Graduation project-2  **3. Graphics Skills**  **Primary Course Evidence**  CT140 Computer Skills  ARCH254 Graphics Skills-1 (Free hand)  ARCH255 Graphics Skills-2 (Arch Draw)  ARCH264 Graphics Skills-3 (Perspective)  ARCH265 Computer Skills-1  ARCH355 Computer Skills-2  ARCH410 Architectural Design-5(CAD)  ARCH420 Architectural Design-6 Advanced Design  **Secondary Course Evidence**  ARCH250 Architectural Design-1  ARCH260 Architectural Design-2  ARCH269 Landscape  ARCH350 Architectural Design-3 Environmental Design  ARCH360 Architectural Design-4 Urban Design  ARCH421 Interior Design  ARCH430 Architectural Design-7 Systems  ARCH434 Graduation Project-1  ARCH495 Graduation Project-2  **4. Research Skills**  **Primary Course Evidence**  CI140 Learning & Thinking & Research  ARCH411 Application of Humanities  ARCH434 Graduation Project-1  **Secondary Course Evidence**  ARCH266 Building Materials  ARCH268 History of Architecture  ARCH269 Landscape  ARCH350 Architectural Design-3 Environmental Design  ARCH351 Environmental Control  ARCH352 Theory of Architecture-1  ARCH353 Principles of Urban Design  ARCH355 Computer Skills-2  ARCH357 Building Legislations  ARCH360 Architectural Design-4 Urban Design  ARCH410 Architectural Design-5(CAD)  ARCH420 Architectural Design-6 Advanced Design  ARCH421 Interior Design  ARCH430 Architectural Design-7 Systems  ARCH495 Graduation Project-2  **7. Collaborative Skills**  **Primary Course Evidence**  ARCH410 Architectural Design-5(CAD)  ARCH430 Architectural Design-7 Systems  **Secondary Course Evidence**  ARCH350 Architectural Design-3 Environmental Design  ARCH352 Theory of Architecture-1  ARCH353 Principles of Urban Design  ARCH355 Computer Skills-2  ARCH360 Architectural Design-4 Urban Design  ARCH361 Man & Built Environment-1  ARCH363 Housing  ARCH411 Application of Humanities  ARCH424 Facility Programming  ARCH434 Graduation project-1  ARCH495 Graduation project-2  **8. National and Regional Traditions**    **Secondary Course Evidence**  ARCH266 Building Materials  ARCH268 History of Architecture  ARCH350 Architectural Design-3 Environmental  Design  ARCH351 Environmental Control  ARCH360 Architectural Design-4 Urban Design  ARCH361 Man and Built Environment-1  ARCH363 Housing  ARCH368 History of Urbanism  ARCH412 Theory of Architecture-2  ARCH418 History of Muslim Architecture  ARCH420 Architectural Design-6 Advanced Design  ARCH421 Interior Design  ARCH424 Facility Programming  ARCH430 Architectural Design-7 Systems  ARCH434 Graduation project-1  ARCH495 Graduation Project-2  **9. Historical Traditions**    **Primary Course Evidence**  **11. Human Behavior**  **Primary Course Evidence**  ARCH361 Man & Built Environment-1  ARCH411 Application of Humanities  **Secondary Course Evidence**  ARCH260 Architectural Design-2  ARCH269 Landscape  ARCH353 Principle of Urban Design  ARCH360 Architectural Design-4 Urban Design  ARCH363 Housing  ARCH410 Architectural Design-5(CAD)  ARCH418 History of Muslim Architectural  ARCH421 Interior Design  ARCH424 Facility programming  ARCH430 Architectural Design-7 System  ARCH434 Graduation program-1  ARCH495 Graduation Program-2  **12. Human Diversity**  **Primary Course Evidence**  ARCH352 Theory of Architectural-1  ARCH361 Man and Built Environment-1  ARCH411 Application of Humanities  ARCH412 Theory of Architecture-2  ARCH418 History of Muslim Architecture  **Secondary Course Evidence**  ARCH260 Architectural Design-2  ARCH268 History of Architecture  ARCH353 Principles of Urban Design  ARCH360 Architectural Design-4 Urban Design  ARCH363 Housing  ARCH368 History of Urbanism  ARCH410 Architectural Design-5(CAD)  ARCH421 Interior Design  ARCH424 Facility Programming  ARCH430 Architectural Design-7 System  ARCH434 Graduation Project-1  ARCH495 Graduation Project-2  **13. Accessibility**  **Primary Course Evidence**  ARCH269 Landscape  ARCH353 Principles of Urban Design  ARCH360 Architectural Design-4 Urban Design  ARCH410 Architectural Design-5(CAD)  **16. Site Conditions**  **Primary Course Evidence**  ARCH269 Landscape  ARCH350 Architectural Design-3 Environmental  Design  **Secondary Course Evidence**  ARCH351 Environmental Control  ARCH357 Building Legislations  ARCH360 Architectural Design-4 Urban Design  ARCH368 History of Urbanism  ARCH410 Architectural Design-5 (CAD)  ARCH420 Architectural Design-6 Advanced  Design  ARCH424 Facility Programming  ARCH430 Architectural Design-7 Systems  ARCH434 Graduation Project-1  ARCH495 Graduation project-2  **17. Structural Systems**  **Primary Course Evidence**  ARCH414 Statics and Strength of Material  ARCH430 Architectural Design-7 Systems  **Secondary Course Evidence**  ARCH366 Building Construction-1  ARCH420 Architectural Design-6 Advanced Design  ARCH426 Working Drawings  ARCH434 Graduation Project-1  ARCH495 Graduation project-2  **18. Environmental Systems**  **Primary Course Evidence**  ARCH350 Architectural Design-3 Environmental  Design  ARCH351 Environmental Control  ARCH430 Architectural Design-7 Systems  **Secondary Course Evidence**  ME339 Mechanical Installations  ARCH420 Architectural Design-6 Advanced Design  ARCH426 Working Drawings  ARCH427 Lighting and Acoustics  ARCH434 Graduation Project-1  ARCH495 Graduation Project-2  **22. Building Systems Integration**    **Primary Course Evidence**  ARCH366 Building Construction-1  ARCH415 Sanitary Installations  ARCH430 Architectural Design-7 Systems  **Secondary Course Evidence**  ARCH351 Environmental Control  ARCH416 Building Construction-2  ME 339 Mechanical Installations  ARCH421 Interior Design  ARCH426 Working Drawings  ARCH427 Lighting and Acoustics  ARCH434 Graduation Project-1  ARCH435 Project Management  ARCH495 Graduation Project-2  **23. Building Materials and Assemblies**  **Primary Course Evidence**  ARCH266 Building Materials  ARCH366 Building Construction-1  ARCH416 Building Construction-2  **24. Construction Cost Control**  **Secondary Course Evidence**  ARCH366 Building Construction-1  ARCH421 Interior Design  ARCH425 Contracts, Quantities and Specifications  ARCH427 Lighting and Acoustics  ARCH435 Project Management  ARCH491 Professional Practice  **25. Technical Documentation**  **Primary Course Evidence**  ARCH425 Contracts, Quantities and Specifications  ARCH426 Working Drawings  **Secondary Course Evidence**  ARCH416 Building Construction-2  ARCH434 Graduation Project-1  ARCH435 Project Management  ARCH491 Professional Practice  ARCH495 Graduation Project-2  ARCH435 Project Management  ARCH495 Graduation project-2  **30. Professional Development**  **Primary Course Evidence**  ARCH491 Professional Practice  **Secondary Course Evidence**  ARCH425 Contracts, Quantities and Specifications  ARCH435 Project Management  **31. Leadership**  **Secondary Course Evidence**  ARCH425 Contracts, Quantities and Specifications  ARCH435 Project Management  ARCH491 Professional Practice  **32. Legal Responsibilities**  **Primary Course Evidence**  ARCH357 Building Legislations  ARCH425 Contracts, Quantities and Specifications    **Secondary Course Evidence**  ARCH411 Application of Humanities  ARCH426 Working Drawings  ARCH435 Project Management  **33. Ethics and Professional Judgment**  **Primary Course Evidence**  ARCH491 Professional Practice  **Secondary Course Evidence**  ARCH357 Building Legislations  ARCH411 Application of Humanities  ARCH424 Facility Programming  ARCH425 Contracts, Quantities and Specifications  ARCH434 Graduation Project-1  ARCH435 Project Management  ARCH495 Graduation Project-2 |



**4.0 Supplemental Information**

**4.1 Student Progress Evaluation Procedures**

The progress of each student is monitored by faculty and advisors at each step in their academic development. This is one of the primary responsibilities of the Vice-Deanship of Development and Quality of the College of Architecture and Planning.

As previously described students are admitted upon completion of their high school with high quality grades and the completion of an entry examination. The students must complete the preparatory year as required by King Saud University.

Prior to entry into the College of Architecture and Planning the students must pass an aptitude exam, upon entry into the college the Vice Dean for Academic Affairs and the Department of Architecture and Building Science is responsible for all progress evaluations. Individual student record files are maintained in this office for course records, advising and evaluation. All records regarding transfer credits, equivalency placement and maintenance of academic standards and progress toward graduation are maintained in this office. Student records are available for review.

**4.2 Studio Culture Policy**

The current Studio Culture Policy attributes are as follows:

**Student/Student Relationship**

The student/student relationship is a dynamic one that could carry on to a long-term future. In order to create a comfortable atmosphere, students respect each other's background and or culture. They support one another and provide constructive criticism while giving positive feedback.

Design studios operate in an atmosphere of solidarity, shared effort, and mutual support in the task at hand. This entails meeting expectations for team projects, helping each other learn new skills, and sharing resources. It means establishing a culture of generosity that will help ensure that time at the design studios is one of personal growth and collective success.

**Student/Faculty Relationship**

Students have grown up to realize that the faculty is a member of the architectural community in which the student is striving to be a part. The faculties are respected for their knowledge of architecture and their foundations within the community. The student also shows respect by listening to the professor when they are speaking. The student put their greatest efforts into the assignments set by the faculty and have them done within reasonable time frames. Students and faculty discuss time-management strategies to complete assignments.

The student has the right to expect the faculty to respect the student's ability as an individual and judge them upon their abilities. The student also expects the faculty to guide the student towards a higher understanding of architecture and to cultivate the seed of passion for the art and science of architecture. The student expects the faculty to set fair and obtainable goals in the studio with a reasonable amount of time to accomplish said goals. The faculty also remembers that the student has other obligations than the studio and be sensitive towards the student's life outside of the studio.

Design reviews provide an opportunity for students to demonstrate and improve upon their oral and visual presentation skills. They also provide students an important opportunity to learn to appreciate how their work can be interpreted from different, often unanticipated perspectives. Constructive criticism is, in turn, an important issue in each studio. This issue is an inherent and integral part of the evaluation process in the design studio. This criticism could be applied general for all students or at student desk to discuss special issues related to his own project.

**Student & Faculty/Studio Environment Relationship**

The studio is an environment that is meant to stimulate the student by promoting positive energy and passion for architecture. It is also a space for the faculty to express their ideals to pass on to future generations. The studio's physical environment has been furnished with the latest in audio-video and networking equipment and facilities for the expression of the creativity, hard work, and passion of the College of Architecture program. The studio is a comfortable place to work. The shared space should be clean and orderly at all times. Personal materials are not to be left out and are placed in designated personal areas. Personal property should be respected. Noises are kept to a respectable level in the studio. Since the studio is like a second home to the students it is to be made available at all times and the same degree of respect should be in effect at all times.

The King Saud University Architecture Program is dedicated to the cultivation of diverse life experiences and opinions required for a student to be a success in the field of architecture. The studio is an experience that will stay with the students and grow into their own style of working.

The Studio Culture Policy is intended to grow with the Department of Architecture and therefore will remain adaptable. A committee of students and faculty should meet and review the policy for possible revisions regularly.



**4.3 COURSE DESCRIPTIONS**

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| **Number & Title of Course:** | **ARCH 250: Architectural Design 1 – (4)** | |
| **Course Description:** | **This studio focuses on Principles of two and Three dimensional, Principles design, and Practice in using colors, and its effects on visual perception and psychology.** | |
| **Course Goals & Objectives:** | 1. **Gain knowledge related to the principles of two and three dimensional, in addition to colors, and its effects on visual perception and psychology.** 2. **Ability to use graphic and design standards.** | |
| **Student Performance Criterion/ addressed:** | 1. **Understand the Principles related to two and three dimensional, Principles design, color effects and project accessibility.** 2. **Ability to apply critical thinking, graphics, formal ordering systems and fundamental design skills.** | |
| **Topical Outline:** | 1. **Introduction, definition of terms, and course requirements.** | **7%** |
| 1. **Two and three dimensional design principals.** | **14%** |
| 1. **Color effects on visual perception and psychology.** | **14%** |
| 1. **Sketch design.** | **7%** |
| 1. **Main and secondary semester projects.** | **58%** |
| **Prerequisites:** | **None** | |
| **Textbooks/Learning Resources:** | **Learning Resources:**   1. **Wong Wucius, Principles of Three Dimensional Design, Van Nostrand Reinhold Co., NY,1977.** 2. **Wong Wucius, Principles of Two Dimensional Design, Van Nostrand Reinhold Co., NY,1977.** 3. **Van Hagen Earnst,Itter Elements of Color. Van Nostrand Reinhold Co., NY.** 4. **Wong Wucius and Wong Benjamin, Visual Design on the Computer, Van Nostrand Reinhold Co., NY, London, 2001.** 5. **Peter. Tom and Sue Goodman, Manual of Graphic Techniques, Charles Scribner’s sons, New York, 1983.** 6. **Solid Works 99, User’s Guide and Tutorial Manual.** | |
| **Offered:** | **1st semester / 2nd year (Level 3)** | |
| **Faculty assigned:** | **Dr. Osama Al-Gohary** | |

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| **Number & Title of Course (total credits awarded):** | **ARCH 254: Free Hand Drawings (1)** |
| **Course Description (limit 25 words):** | **The course is based on training on free hand sketching without using engineering drawing tools.Training on drawing proportions and object relations and visual qualities**. |
| **Course Goals & Objectives (list):** | 1. **Understand theoretical issues related to developing and improving free hand 3-dimentional sketching skills.** 2. **Learn proportions and objects relations, as well as expressions of visual characteristics& rendering.** |
| **Student Performance Criterion/ addressed (list number and title):** | 1. **Understand Concept related to free hand 3-dimentional sketching skills.** 2. **Ability to drawing proportions and object relations ( Balance, Harmony, contrast, composition, etc), in addition to visual qualities ( Textures, brilliance, transparency, etc)** |
| **Topical Outline (include percentage of time in course spent in each subject area):** | 1. **Practice the single line drawing 10%** 2. **Improving free hand 3-dimentional sketching skills 20%** 3. **Learning proportions and object relations 20%** 4. **Practices the expressions of visual characteristics and application of rendering 50%** |
| **Prerequisites:** | **None** |
| **Textbooks/Learning Resources:** | 1. **Textbook:Robert W. Gill , The Thames &Hudson , Rendering with Pen &Ink, Thames &Hudson, .2004.** 2. **Learning Resources:**  * **The Leovards Collection, The Fundamentals of Drawing, Published by Vincana.** * **Swanwick, Ronald, Drawing Landscape, Search Press Ltd. 2001.** |
| **Offered (semester and year):** | **1st semester- 3rd year (Level-3)** |
| **Faculty assigned (list all faculty assigned during the four semesters prior to the visit):** | **Prof. MohamedAbouelmagd**  **Dr. Osama Al Gohary** |

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| **Number & Title of Course:** | **ARCH 260: Architectural Design 2 – (4)** | |
| **Course Description:** | **This studio focuses on elaborating Two projects and two sketches design. Students develop, a model, into a functional one use building. In the second one they design a residential unit.** | |
| **Course Goals & Objectives:** | 1. **The ability to use the basic mass formation (three dimensional) with emphasis on functional performance for architectural spaces elements.** 2. **Emphasis on the manual skills acquired in the previous phases.** 3. **Ability to use graphic and design standards for architectural elements regularity.** | |
| **Student Performance Criterion/ addressed:** | 1. **Enabling functional space shaping through physiological and psychological needs and ensuring gained skills from previous stages.** 2. **Enabling students to use standard references on architectural data.** 3. **Gain knowledge and skills in designing residential unit.** | |
| **Topical Outline:** | 1. **Introduction, definition of terms, and course requirements.** | **7%** |
| 1. **Preparing and presenting the architectural program of the term projects.** | **14%** |
| 1. **Design and presentation of first project.** | **23%** |
| 1. **Design and presentation of second project.** | **42%** |
| 1. **Various Support lectures depending on the selected design projects.** | **14%** |
| **Prerequisites:** | **ARCH 250, ARCH 255** | |
| **Textbooks/Learning Resources:** | **Learning Resources:**   1. **Ernest Neufert, Architects' data 2nded, New York, 1980.** | |
| **Offered:** | **Second semester / second year (4)** | |
| **Faculty assigned:** | **Dr. ImadOtahbachi (co-coordinator)**  **Prof. Mohammed Al Hussayen**  **Dr. Mustafa Baleela**  **Dr. Osama Al Gohary**  **Dr. Abdullah Mahmood**  **Dr. KamarulzamanYusoff**  **Dr. MahamoodChe Hussein**  **Dr. Jamal ShafiqIlayan** | |

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| **Number & Title of Course (total credits awarded):** | **ARCH 255 Graphic Skills (4)** |
| **Course Description (limit 25 words):** | Learning the manual skills of architectural drafting, from paper formatting, lettering, projection drawings, and finally executing simple architectural presentation. |
| **Course Goals & Objectives (list):** | 1. To enable students understand the conventions of drawing language in architectural drawing and drafting 2. Ability to convey architectural design ideas using architectural graphic skills in presentation work. |
| **Student Performance Criterion/ addressed (list number and title):** | 1. Speaking and writing skills, 2. Critical Thinking Skills, 3. Graphics Skills, |
| **Topical Outline (include percentage of time in course spent in each subject area):** | 1. Basic skills: 5 weeks (31.25%) 2. Projection drawings: 5 weeks (31.25%) 3. Architectural drawings: 6 weeks (37.5%) |
| **Prerequisites:** | None |
| **Textbooks/Learning Resources:** | 1. Ching, Frank (Francis D.K.), *Architectural Graphics*, Van Nostrand Reinhold, New York 1975; 2nd ed. 1985; 3rd ed. 1996; 4th ed. John Wiley, New York 2003, [ISBN 0471209066](http://en.wikipedia.org/wiki/Special:BookSources/0471209066) |
| **Offered (semester and year):** | Semester 1 and 2, Year 2 (Level 3) |
| **Faculty assigned (list all faculty assigned during the four semesters prior to the visit):** | Dr.Kamarulzaman Bin Yusof  Dr.Mahamood Che Hussin |

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| **Number & Title of Course (total credits awarded):** | **ARCH 264 Shadow and Perspective (2)** |
| **Course Description (limit 25 words):** | Learning the Perspective drawing techniques and Shadow projections on Architectural drawings, two and three –Dimensional. |
| **Course Goals & Objectives (list):** | 1. Development of visualization skills. 2. Three- dimensional drawings. 3. Shadow and shade projections. |
| **Student Performance Criterion/ addressed (list number and title):** | 1. Critical Thinking Skills. 2. Graphics Skills. 3. Formal Ordering Systems. 4. Fundamental design skills |
| **Topical Outline (include percentage of time in course spent in each subject area):** | 1. Perspective drawing techniques (56%) 2. Shades and Shadows projection (35%) 3. Exercises and quizzes 9% |
| **Prerequisites:** | None |
| **Textbooks/Learning Resources:** | 1. Martin, Leslie, Architectural Graphics, second edition, Mac Milan Publishers, London. 2. E. L. Koller Light, Shade & Shadow. |
| **Offered (semester and year):** | 2ndSemester ,2nd Year 2 (Level 4) |
| **Faculty assigned (list all faculty assigned during the four semesters prior to the visit):** | M Arch. Wael Al-Bouchi |

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| **Number & Title of Course (total credits awarded):** | **ARCH 265 - Computer Drafting Skills -1 (3)** |
| **Course Description (limit 25 words):** | **The course introduces computer modeling, CAD drafting concepts,and the implementation of two-dimensional drawing techniques through hands-on experience.** |
| **Course Goals & Objectives (list):** | 1. **Implement typical drafting concepts found in many CAD programs.** 2. **Work efficiently and comfortably with the selected drafting packages.** 3. **Apply pertinent drafting techniques to accelerate the process, while maintaining accuracy and readability of the drawings.** |
| **Student Performance Criterion/ addressed (list number and title):** | 1. **Understand Concepts related to 2D computer drafting.** 2. **Ability to prepare and present 2D graphical building representations using a selected application.** |
| **Topical Outline (include percentage of time in course spent in each subject area):** | 1. **Course introduction, definition of terms, and course requirements. (7%).** 2. **Basic drawing and editing commands (35%).** 3. **Layering and grouping commands (14%).** 4. **Annotating and dimensioning (14%).** 5. **Layouts and printing (14%)** 6. **Presentation and coloring techniques (14%)** |
| **Prerequisites:** | **None** |
| **Textbooks/Learning Resources:** | 1. **Textbook:Yarwood, A. (2010)Introduction to AutoCAD 2011: 2D and 3D Design. Elsevier, Netherlands. ISBN: 978-0-08-096575-8** |
| **Offered (semester and year):** | **4th semester / 2nd year (Level 4)** |
| **Faculty assigned (list all faculty assigned during the four semesters prior to the visit):** | **Dr. MohamedSherif T. El-Attar** |

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| **Number & Title of Course (total credits awarded):** | **ARCH 266 – Building Materials (2)** |
| **Course Description (limit 25 words):** | **A brief analysis of the main and secondary building materials, Properties products used in construction, stone, Block, concrete, metal, glass, fiber reinforced materials and insulation material, etc.** |
| **Course Goals & Objectives (list):** | 1. **Introduce building materials properties.** 2. **Introduction to simple construction and training in building construction drawings.** |
| **Student Performance Criterion/ addressed (list number and title):** | 1. **Understand sustainable design and related building envelops concepts.** 2. **Ability to prepare research work and present building materials.** 3. **Ability to choose and give decision concerning suitable building materials and related assemblies.** |
| **Topical Outline (include percentage of time in course spent in each subject area):** | 1. **Introduction** 2. **Stone** 3. **Wood** 4. **Concrete** 5. **Metal** 6. **Block** 7. **Ceramics** 8. **Fiber-reinforced Products** 9. **Glass** 10. **Plastics and Rubber** 11. **Insulation** |
| **Prerequisites:** | **None** |
| **Textbooks/Learning Resources:** | 1. **Textbook: P.C.Varghese, Building materials, Prentice, Hall of India.2006** 2. **Learning Resources:**    1. **M.Barakat, Construction Materials and standard testing. Dar Alrateb Beirut. 1984**    2. **Emmitt, S. & Gorse, C.: Barry’s Introduction to Construction of Buildings, Blackwell, 2005**    3. **Evert, Materials , Mitchell’s London1983.**    4. **Foster, J.S., Structure and Fabric Part 1 , Mitchell’s London1983.** |
| **Offered (semester and year):** | **Second Semester / Second year (Level 4)** |
| **Faculty assigned:** | **Dr. Khaled M Aljammaz**  **Dr. Faisal A. Agabani**  **Dr. Rusli Abdullah** |

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| **Number & Title of Course:** | **Arch 268 – History Of Architecture (2)** | |
| **Course Description:** | **The course introduces students to world architecture and urbanism from prehistory to Renaissance. It helps understanding the various cultural, technological and aesthetic ideas through history.** | |
| **Course Goals & Objectives:** | 1. **Enable students to analyze architecture through different eras within the geographical, climatically, religious and technical context.** 2. **Develop a comprehension of the needs and aspirations of a given epoch as these were manifested in physical form, as well as to the reception of architectural ideas and buildings in such epoch and their impact on current thinking.** | |
| **Student Performance Criterion/ addressed:** | 1. **To acquaint students with objects from a range of periods.** 2. **To introduce students to the many varied issues and concerns of Architecture including its methods, materials and techniques.** | |
| **Topical Outline:** | **Course Introduction** | **7%** |
| **Mesopotamian and Egyptian architecture** | **14%** |
| **Greek architecture, Etruscan and early Rome, Christian and Byzantine, Romanesque, Gothic, Renaissance and Baroque.** | **65%** |
| **Midterm Exam** | **7%** |
| **Later developments & Final discussion** | **7%** |
| **Prerequisites:** | **None** | |
| **Textbooks/Learning Resources:** | 1. **Textbook:**   **ImadOtahbachi, selected articles and notes, 2000**   1. **Learning Resources:**   **Fletcher's, S., A History of Architecture, 19th edition, London : The Butterworth Group, 1987**  **Ching, F., et al, A Global History of Architecture (New York: Wiley, 2007)** | |
| **Offered** | **2nd Semester- 2nd year (Level 4)** | |
| **Faculty assigned** | **Dr. ImadOtahbachi**  **Dr. Jamal SyafiqIlayan**  **Dr. YousefAlbagoury** | |

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| **Number & Title of Course (total credits awarded):** | **ARCH 269: Landscape Architecture (2)** |
| **Course Description (limit 25 words):** | **The course deals with theories and history of the Landscape Architecture, the environmental balance, and theoretical principles for site analysis.** |
| **Course Goals & Objectives (list):** | 1. **Introduce tools and stages of analysis and coordination of sites and landscape.** 2. **Understand concepts of environmental conservation and ecological balance and integration between the elements of the natural environment.** 3. **Focusing on the environment of Saudi Arabia..** |
| **Student Performance Criterion/ addressed (list number and title):** | 1. **Understand landscape theories, components, and site analysis principles.** 2. **Ability to analyze site conditions, environmental systems and related issues.** |
| **Topical Outline (include percentage of time in course spent in each subject area):** | 1. **History and theories of landscape architecture. 14%.** 2. **Introduction to sustainability and environmental control 14%%** 3. **Exploring Landscape main components. 42%** 4. **Site analysis theories and principles. 28%** |
| **Prerequisites:** | **None** |
| **Textbooks/Learning Resources:** | 1. **Text book:Booth, Norman K, Basic Elements of Landscape Architecture Design, Ohio State Univ., Waveland Press, 1990.** 2. **Learning Resources:**    * **Jamas A., Jr. LaGro, Site Analysis: A Conceptual Approach To Sustainable Land Planning and Site Design, Wily 2nd (November2007).**    * **John Ormsbee Simonds, Barry Strake, Landscape Architecture, McGraw Hill Professional, 2006 4th Edition.**    * عبد الواحد, عبد الحميد, **تخطيط وتصميم المناطق الخضراء**, دار غريب, القاهرة, 1988.    * إدريس, رشيد سليم, **الحدائق هندسة وتنسيق**, الدار الجامعي للنشر, بيروت, 1986.    * القيعي, طارق محمود, **تصميم و تنسيق الحدائق**, منشأة المعارف, الإسكندرية, 1985. |
| **Offered (semester and year):** | **2st semester – 2nd year (Level 4)** |
| **Faculty assigned (list all faculty assigned during the four semesters prior to the visit):** | **Dr. Omar Bahammam**  **Dr. Ahmed Omar Mohamed** |

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| **Number & Title of Course** | **ARCH 350 – Architectural Design-3 (4)** |
| **Course Description (limit 25 words):** | **The course introduces elements of environmental building design/basics of Sustainability in building's design through a practical building design exercise.** |
| **Course Goals & Objectives (list):** | **1. Influences of Natural Environmental elements on Architectural design.**  **2. Applying basics of environmental design.**  **3. Applying design and drawing skills in previous projects.**  **4. Sound sustainable, structural and economical grounds for building design**. |
| **Student Performance Criterion/ addressed (list number and title):** | **1. Know and apply basic principles of environmental design of buildings..**  **2. Critical thinking, creative problem solving and Design report preparation.**  **3. Ability to analyze, study environmental solutions options and Access to design information sources.**  **4. Effective participation, self-expression and Architectural practice ethics.** |
| **Topical Outline (include percentage of time in course spent in each subject area):** | **Students are briefed about the projects through an introductory lecture and given handouts with the project requirements in terms of building activities, space allocations, any technical or environmental requirements and a structured work plan for the development of the project along a specified time framework.**  **Main body of knowledge about the project natural and environmental factors is conveyed through Studio work 50%, lectures 10%, critique session 15%, group work 10%, visits to college library, visit to proposed project site 5%, and similar examples from books and visits to real projects 10%.** |
| **Prerequisites:** | **ARCH 260** |
| **Textbooks/Learning Resources** | **1. Textbook: Common Architectural Standards references.**  **2. Learning Resources:Architectural Magazines, e.g. ARCA, DOMUS, AD, JA, TA, AA** |
| **Offered (semester and year):** | **1st semester / 3rd year (Level 5)** |
| **Faculty assigned (list all faculty assigned during the four semesters prior to the visit):** | **Dr. KhaledAljmaaz.**  **Dr. Abdel RahmanElbakheit**  **Dr. Osama Abdou**  **Dr. MahmoodCheHussin**  **Dr. Jamal SyafiqIlayan.** |

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| **Number & Title of Course** | **ARCH 351 – Studies in Environmental Control (2)** |
| **Course Description (limit 25 words):** | **This course studies the interaction between buildings and climate considering natural and man- made effects in order to create a climatically comfortable and controlled environment for buildings users.** |
| **Course Goals & Objectives (list):** | **1. To identify how climate is influenced by form and design of buildings**  **2. To identify how lead to design concepts that can modify the prevailing climate.**  **3. To identify how climate affect positively or negatively human comfort.**  **4- To understand about the nature of climate and climatic regions in Saudi Arabia.** |
| **Student Performance Criterion/ addressed (list number and title):** | **1. Understanding with the usefulness of the built environment within the relation between climate and architecture.**  **2. Ability to design buildings with climatically comfortable living environment.**  **3. Ability to analyze, study and research preparation and presentation.**  **4. Ability to designclimatically sustainable architecture.** |
| **Topical Outline (include percentage of time in course spent in each subject area):** | **1. Introduction, course objectives, interaction between buildings and climate, 10%**  **2. Climatic analysis, effects and characteristics,20%**  **3. Climate factors and human comfort 10%.**  **4. Natural climatic modifications 30%.**  **5. Design with climate, Building form , design elements, and climate modifications 30%** |
| **Prerequisites:** | **PHYS 105** |
| **Textbooks/Learning Resources:** | **1. Textbook: Koenigsberger, O., 2005, Manual of Tropical Housing and Building Design with Climate, Longman Group, ltd, London, UK**  **2-Learning Resources:** |
| **Offered (semester ):** | **1st semester and 3rd year (Level 5)** |
| **list all faculty assigned during the four semesters prior to the visit):** | **Prof. ElsayedAmer** |

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| **Number & Title of Course (total credits awarded):** | **ARCH 352 – Theory of Architecture -1 (2)** |
| **Course Description (limit 25 words):** | **This course concentrates on renaissance age, 18th and 19th centuries and modernism period. Emphasis shall be on works and trends of pioneers throughout those eras.** |
| **Course Goals & Objectives (list):** | 1. **A knowledge base of diverse intellectual trends in architecture.** 2. **Explain the reasons for the change of trends.** 3. **Architectural criticism.** |
| **Student Performance Criterion/ addressed (list number and title):** | 1. **Research in the field of theories of architecture and to work individually or through group.** 2. **Understand the Western tradition.** 3. **Criticism and analysis of architectural trends.** |
| **Topical Outline (include percentage of time in course spent in each subject area):** | 1. **Course introduction (7%).** 2. **Renaissance age (14%).** 3. **Architecture of 18th and 19th centuries (14%).** 4. **Art Nouveau, De Stijl, Constructivism, expressionism and Futurism (21%).** 5. **Bauhaus, Functionalism, International Style and Organism (28%).** 6. **Regional modernism (Hassan Fathy and Alto) (14%).** |
| **Prerequisites:** | **None** |
| **Textbooks/Learning Resources:** | 1. **Textbook: Riseberro, B.(2006) The Story of Western Architecture, The MIT Press, Cambridge, Massachusetts.** 2. **Learning Resources: Internet.** |
| **Offered (semester and year):** | **1st semester / 3rd year (Level 5)** |
| **Faculty assigned (list all faculty assigned during the four semesters prior to the visit):** | **Dr. Abdul Rahman Al-Angary**  **Prof. Nouby Mohammed Hassan**  **Prof. Mohammed Abouelmaged** |

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| **Number & Title of Course (total credits awarded):** | **ARCH 353: Principals of Urban Design (2)** |
| **Course Description (limit 25 words):** | **The course deals with the history and theories of urban design with discussion to metal and visual impressions. Relations of spaces and its surroundings will be identified.** |
| **Course Goals & Objectives (list):** | 1. **Understand the field of urban design.** 2. **Focus on the principles that defined urban design elements and process.** |
| **Student Performance Criterion/ addressed (list number and title):** | 1. **Understand urban design theories.** 2. **Ability to analyze the urban fabric of the city and the relation of its blocks and open spaces.** 3. **Study the process of perception and different impressions in the light of the visual analysis of the elements of the urban median.** |
| **Topical Outline (include percentage of time in course spent in each subject area):** | 1. **Attendance and discussion during the lecture 10%** 2. **Individual research 10%** 3. **Group project (Surveying of existing area or street) 20%** 4. **Midterm exam 20%** 5. **Final exam 40%** |
| **Prerequisites:** | **ARCH 265 – Computer Drafting Skill (1)** |
| **Textbooks/Learning Resources:** | 1. **Lang ,Jon, Urban Design: A Typology of Procedures and Products, Architectural Press, 2005 1stEdition** 2. **Study, a GLC, Housing Layout, Architectural Press: London, 1978.** 3. **Lynch, Kevin, The Image of The City, Technology Press, Harvard Univ. Press, Cambridge, Mass, 1960.** |
| **Offered (semester and year):** | **1st semester – 3rd year (Level 5)** |
| **Faculty assigned (list all faculty assigned during the four semesters prior to the visit):** | **Prof. Hazem M. Ewais**  **Dr. Kamarulzaman Bin Yusof** |

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| **Number & Title of Course (total credits awarded):** | **ARCH355 - Computer Drafting Skills -2 (3)** |
| **Course Description (limit 25 words):** | **The course is based on developing and enhancing 3D computer modeling and presentation skills through lectures and hands-on experience in using computer applications.** |
| **Course Goals & Objectives (list):** | 1. **Understand theoretical issues related to computer applications in architecture.** 2. **Learn 3D digital modeling, rendering, and evaluation techniques using a variety of software applications** |
| **Student Performance Criterion/ addressed (list number and title):** | 1. **Understand Concept related to 3D computer modeling.** 2. **Ability to prepare and present different 3D models using different applications** |
| **Topical Outline (include percentage of time in course spent in each subject area):** | 1. **Course introduction, advantages, disadvantages, and ethics of Computer Applications in design process (7%).** 2. **Introduction to computer tools and techniques related to 3D digital modeling and its influences on architectural design (14%).** 3. **Concepts related to the preparation and representation of 3D digital models (35%).** 4. **Management and organization of 3D digital models (14%).** 5. **Concepts related to visualization and rendering of 3D models (30%)** |
| **Prerequisites:** | **ARCH 265 – Computer Drafting Skill (1)** |
| **Textbooks/Learning Resources:** | 1. **Textbook: Mitchell, W. J. and McCullough, M. (1997 2nd Edition) Digital Design Media, John Wiley & Sons, New York.** 2. **Learning Resources:Eastman, Chuck, Teicholz, Paul, Sacks, Rafael and , Kathleen Liston (2008) BIM Handbook, John Wiley & Sons, Inc.** |
| **Offered (semester and year):** | **1t semester / 3rd year (Level 5)** |
| **Faculty assigned (list all faculty assigned during the four semesters prior to the visit):** | **Dr. MohamedSherif T. El-Attar**  **Dr. Ahmed Omar M. S. Mostafa**  **Arch. Faisal Nasr Eldein** |

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| **Number & Title of Course:** | **ARCH 357: Building Legislation (2)** | |
| **Course Description:** | **The aim of this course is to introduce the student to the methods of organizing the urban form process, and to inform about the various building legislation that urban planning is accountable for.** | |
| **Course Goals & Objectives:** | 1. **The ability to use the building legislation and urban form in the Kingdom. In addition, it presents the role of various governmental sectors in urban planning and its regulations at the national, regional and local levels.** 2. **The ability to use the building legislation with emphasis on functional performance for urban form elements,** 3. **The ability to use building legislation and design standards for urban form& architectural elements regularity.** | |
| **Student Performance Criterion/ addressed:** | 1. **The course provides discussions of different aspects of funding planning& design activities of various levels.** 2. **This course assists the student in gaining knowledge about the nature of urban formprofession, the role of planner, the role of designer, other professions, as well as acquiring knowledge of the laws and legislations of urbanism.** | |
| **Topical Outline:** | 1. **Orientation and theoretical background to the course and general introduction to building legislation.** | **7%** |
| 1. **Clarifying the building legislation and functional structures of Saudi Arabia and municipalities as well as other governmental institutions of international cities** | **14%** |
| 1. **Discusses the guidelines of determining building legislation, and the role of regional council in the decision-making of the local and regional planning and its relationship with other levels.** | **23%** |
| 1. **Explanation of the theories and models of building legislation and applying international design regulations as well as the Islamic laws and legislation in planning , design, and urban form.** | **42%** |
| 1. **Discusses selected issues of national and international building legislation** | **14%** |
| **Prerequisites:** | **None** | |
| **Textbooks/Learning Resources:** | **Learning Resources:**   1. **Smart Growth Zoning Code: A Resource Guide** | |
| **Offered:** | **1stsemester / 3rd year (Level 5)** | |
| **Faculty assigned:** | **Prof. Dr. Osama K. Ibrahim** | |

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| **Number & Title of Course (total credits awarded):** | **ARCH 360 Architectural Design – 4 (4)** |
| **Course Description (limit 25 words):** | **Planning and designing an urban project within an existing or proposed urban context with emphasis on scale, masses, urban issues and patterns, identity and urban expression.** |
| **Course Goals & Objectives (list):** | 1. **The application of urban design principles.** 2. **Ability to design complex and exterior urban spaces.** |
| **Student Performance Criterion/ addressed (list number and title):** | 1. **Understand Concepts related to urban design principles.** 2. **Ability to deal with urban design projects, including the development of city centers, preservation and conservation of traditional areas, and planning and design of housing projects.** |
| **Topical Outline (include percentage of time in course spent in each subject area):** | 1. **Project Phases during the Semester 20% (Four phases).** 2. **Sketch Designs 30% (Three sketch designs).** 3. **Absents 5%.** 4. **Pre-final 15%.** 5. **Final Jury 30%.** |
| **Prerequisites:** | **ARCH 350 Architectural Design-3 (Environmental Design)** |
| **Textbooks/Learning Resources:** | 1. **Watson, Donald,Time Saver Standard for Urban Design, McGraw Hill Professional, 2003 1st Edition.** 2. **“Origin & Development of Urban Design”, Harvard Design Magazine, winter 2006, p956** 3. **“Urban Design Now”, Harvard Design Magazine, Summer, 2006.** |
| **Offered (semester and year):** | **2nd semester, 3rd year (Level 6)** |
| **Faculty assigned (list all faculty assigned during the four semesters prior to the visit):** | **Prof. Mohammed Al-Hussayen**  **Prof. Hazem M. Ewais**  **Dr. Saleh Al-Hathloul**  **Dr. Moustafa M. Baleela**  **Dr. Motaz M. Salama**  **Dr.Kamarulzaman Bin Yusof**  **Arch. Saad Al-Kahtanee**  **Arch. Abdul Aziz Al-Shabeeb** |

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| **Number & Title of Course (total credits awarded):** | **ARCH 361: Man and Built Environment 1** |
| **Course Description (limit 25 words):** | **The course defines the natural and built environment and approaches to deal with. It also explains interaction within architecture through studying the theories of perception, cognition, and mental maps.** |
| **Course Goals & Objectives (list):** | 1. **Understand environmental impacts of the interaction between man and his environment at all levels of architectural and urban. Like pollution, climatic change, noise.** 2. **Focus on mutual effect between environmental conditions on man (like privacy, territoriality and personal space)** |
| **Student Performance Criterion/ addressed (list number and title):** | 1. **Understand environment and its impacts and pollution.** 2. **Understand methods of environmental cost.** 3. **Study the process of perception and different impressions in the light of the mental cognition.** 4. **Ability to analyze the urban and architectural spaces according to human cognition.** |
| **Topical Outline (include percentage of time in course spent in each subject area):** | 1. **Approach 7.5%** 2. **Definitions and theories and environmental cost 23%** 3. **Pollution and treatments 15.5%** 4. **Society and built environment 7.5%** 5. **Theories of perception, cognition, and mental maps 15.5%** 6. **Individual spaces and territoriality 15.5%** 7. **Work spaces and work environment 15.5%** |
| **Prerequisites:** | **None** |
| **Textbooks/Learning Resources:** | **Textbook**   1. **[McAndrew, F. T. (1993). Environmental psychology. Pacific Grove, CA: Brooks/Cole. [Arabic translations, 2002, Kuwait University Press.]](http://www.amazon.com/exec/obidos/ASIN/0534193080/understandi0d-20" \t "_blank)**   **Learning resources**   1. **Waziri, Yahya, Islamic Architecture and Environment, Alam El Maarifa (304), Kuwait 2004.** |
| **Offered (semester and year):** | **2nd semester, 3rd year (Level 6)** |
| **Faculty assigned (list all faculty assigned during the four semesters prior to the visit):** | **Dr. AymenEissaAbdulhamid** |

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| **Number & Title of Course (total credits awarded):** | **ARCH 363 Housing (2)** |
| **Course Description (limit 25 words):** | **The course focuses on issues related to public housing for the poor groups of the society.** |
| **Course Goals & Objectives (list):** | 1. **Introduce student to housing concepts.** 2. **Explore housing problems, polices, programs, and strategies.** 3. **Analysis and evaluation of housing projects** |
| **Student Performance Criterion/ addressed (list number and title):** | 1. **Understanding the important issues of housing inside and outside KSA.** 2. **Discussing and analyzing housing problems.** 3. **Ability to use computer applications in presentation.** |
| **Topical Outline (include percentage of time in course spent in each subject area):** | 1. **Course introduction and definitions (7%).** 2. **Introduction to housing (7%).** 3. **Forcing affecting imbalance of housing demands and supplies (14%).** 4. **Housing problems, polices, programs, and strategies (35%).** 5. **Analysis and evaluation of housing projects (7%).** 6. **Public housing in KSA. (30%).** |
| **Prerequisites:** | **None** |
| **Textbooks/Learning Resources:** | 1. **Text book: Charles Abrams, “Man’s struggle for shelter in an urbanizing world”, 1974.** 2. **Learning resources:**     1. **“Housing without houses”**    2. **“The defensible space”** |
| **Offered (semester and year):** | **2nd semester, 3rd year (Level 6)** |
| **Faculty assigned (list all faculty assigned during the four semesters prior to the visit):** | **Dr. Yousef Mohamed Fadan** |

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| **Number & Title of Course:** | **ARCH 366 Building Construction -I (2)** |
| **Course Description:** | **The main purpose of the course is to introduce students of architecture to the fundamental principles that govern how buildings are erected. Providing a more expansive survey of building construction by adding coverage structural steel and reinforced concrete (cast in place and pre cast).** |
| **Course Goals & Objectives:** | * **Introduce students to type of loads and load path** * **Introduce students to type of building structure** * **Introduce students to structures, their function and types** * **Teach students about main structural elements and components and their assembly.** |
| **Student Performance Criterion/ addressed:** | * **Knowledge and understanding of main component**   **Ability to Analyze and study.**  **Ability to create and select a structural system to a building** |
| **Topical Outline (include percentage of time in course spent in each subject area):** | * **Introduction to building types** * **Load types and their effects on the structures (relationship between Stress- Strain** * **Main concrete structural elements (cast in situ), types** * **Slab types** * **Precast reinforced concrete and their assembly** * **Portal Steel Frame and assembly** * **Foundation and types** |
| **Prerequisites:** | **ARCH 266** |
| **Textbooks/Learning Resources:** | * [**Building Construction Handbook, Eighth Edition**](http://www.amazon.com/Building-Construction-Handbook-Eighth-Chudley/dp/1856178056/ref=sr_1_5?s=books&ie=UTF8&qid=1292577507&sr=1-5)**by Roy Chudley and Roger Greeno BA(Hons.) (Apr 5, 2010)** * [**External Components (Mitchell's Building) (v. 1)**](http://www.amazon.com/External-Components-Mitchells-Building-v/dp/0582212553/ref=sr_1_2?s=books&ie=UTF8&qid=1292577668&sr=1-2)**by Michael McEvoy(Mar 1996)**[**Barry's Introduction to Construction of Buildings**](http://www.amazon.com/Barrys-Introduction-Construction-Buildings-Stephen/dp/1405188545/ref=sr_1_2?s=books&ie=UTF8&qid=1292577761&sr=1-2)**by** [**Stephen Emmitt**](http://www.amazon.com/Stephen-Emmitt/e/B001HPD7D4/ref=sr_ntt_srch_lnk_2?qid=1292577761&sr=1-2)**(Feb 16, 2010)** |
| **Offered** | **Semester level 6** |
| **Faculty assigned** | **Dr. Ali SaeedSmaili,**  **Dr. Faisal Agabani.** |

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| **Number & Title of Course:** | **Arch 368 – History of Urbanism (2)** | |
| **Course Description:** | **The course introduces students to world architecture and urbanism from prehistory to Renaissance. It helps understanding the various cultural, technological and aesthetic ideas through history.** | |
| **Course Goals & Objectives:** | 1. **Give the student a basic comprehension of the significant attitudes, philosophies, and theories of the periods under scrutiny and their relevance in the contemporary urban planning fields of theory and practice.** 2. **Explore the interrelation between urban planning and the environmental on which it rests, placing the character of physical form in its social-historical context.** 3. **Develop a comprehension of the needs and aspirations of a given epoch as these were manifested in physical form, as well as to the reception of urban ideas in such epoch and their impact on current thinking** | |
| **Student Performance Criterion/ addressed:** | 1. **To acquaint students with objects from a range of periods.** 2. **To introduce students to the many varied issues and concerns of Architecture including its methods, materials and techniques.** 3. **Ability to analyze the urban form of the city and the relation of its criteria.** | |
| **Topical Outline:** | **Course Introduction and terms definitionPopulation& Human Settlements Population & Human Settlements ; The Early Cities** | **7%** |
| **Monuments: Egyptian Development ,city of Urban form , Irak Development city of Urban form city of Ur White Temple at Ur, Ziggurat at Ur, Palace of Assurnasirpal (Nimrud), Palace at Khorsabad, city of Babylon, Ishtar Gate, Persepolis,** | **14%** |
| **Greek urban form, Etruscan and early Rome, Christian and Byzantine, Romanesque, Gothic, Renaissance and Baroque.Rome And the Empire, Mediaeval Urbanism & Towns** | **65%** |
| **Midterm Exam** | **7%** |
| **Middle era , Islamic UrbanismResearch Later developments & Final discussion** | **7%** |
| **Prerequisites:** | **None** | |
| **Textbooks/Learning Resources:** | **Textbook: Printed lectures**  **Learning Resources:**  **Morris ,A, E,J , History Of Urban form – New York – John Wiley & Sons , 1986**  **The City In History – Lewis Mumford** | |
| **Offered** | **2nd semester, 3rd year (Level 6)** | |
| **Faculty assigned** | **Dr. YousefAlbagoury**  **Eng.Mohamed I. Khattab** | |

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| **Number & Title of Course (total credits awarded):** | **ARCH410 - Design Studio-5 (4)** |
| **Course Description (limit 25 words):** | **This studio focuses on the design of multifunctional and mixed use projects. Computer modeling and presentation techniques are encouraged during all phases of the design.** |
| **Course Goals & Objectives (list):** | 1. **Gain knowledge and skills to design multifunctional and mixed use projects.** 2. **Learn basic architecture programming concepts.** 3. **Apply previously learnt design and computer skills in the preparation and presentation of the assigned project(s).** |
| **Student Performance Criterion/ addressed (list number and title):** | 1. **Understand and apply fundamental design skills.** 2. **Understands other related skills (i.e. writing, speaking, critical thinking, collaboration, national and regional traditions, use of precedents, basic program requirements, building systems, and life safety.** 3. **Ability to prepare and present a multi-functional and mixed-use projects using suitable computer applications** |
| **Topical Outline (include percentage of time in course spent in each subject area):** | 1. **Course Introduction, warming up, and project kick-off (7%).** 2. **Architectural project research and analysis- basic program (14%).** 3. **Lectures related to the project’s fundamental design issues (14%)** 4. **Development and follow-up project phases (44%).** 5. **Sketch designs juries(21%).** |
| **Prerequisites:** | **Arch 360 (Design studio-4)/ Arch 355 (Computer skills-2).** |
| **Textbooks/Learning Resources:** | 1. **Textbook: N/A** 2. **Learning Resources: Architectural Books and magazines related to multifunction and mixed use projects.** |
| **Offered (semester and year):** | **1st semester, 4th year (Level 7)** |
| **Faculty assigned (list all faculty assigned during the four semesters prior to the visit):** | **Dr. Ahmed Omar M. S. Mostafa**  **Dr. MohamedSherif T. El-Attar**  **Dr. Faial Agabani**  **Arch. Faisal Nasr Eldein** |

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| **Number & Title of Course (total credits awarded):** | **ARCH 411 Applicationsof Humanities (2)** |
| **Course Description (limit 25 words):** | **Students study the basic human behavior patterns and the motivations leading to their presence in spatial surroundings, and their mutual relationships.** |
| **Course Goals & Objectives (list):** | 1. **Understanding human behavior within built environments** 2. **Recognizing aspects human of human behavior relevant to built environment, such as personal space, territoriality, and cue searching.** 3. **Studying human behavior and its relation to built environment using research methods and data collections techniques, such as surveys and interviews.** |
| **Student Performance Criterion/ addressed (list number and title):** | 1. **Distinguishing aspects of human behavior in built environments** 2. **Relating aspects of human behavior to actual settings and human activities that take place within their surrounding** 3. **Analyzing actual settings by mutually attributing environmental characteristics to human behavior using data collection techniques.** |
| **Topical Outline (include percentage of time in course spent in each subject area):** | 1. **Human behavior (7%)** 2. **Human nature: Friendship formation, Group membership, Personal space, Territoriality, Communication, Personal status, Cue searching, Safety. (14%)** 3. **Living together (7%)** 4. **Working together (7%)** 5. **Meeting together (7%)** 6. **Shopping together (7%)** 7. **Learning together (7%)** 8. **Healthcare (7%)** 9. **Outdoor an indoor public space (7%)** |
| **Prerequisites:** | **ARCH361** |
| **Textbooks/Learning Resources:** | 1. **Textbook: Deasy, C. M. (1990) Designing Places for People: "A Handbook on Human Behavior for Architects, Designers and Facility Managers"** 2. **Learning Resources:2) Al-Assaf, S. (1996) Approaches to Research in Behavioral Sciences. (Arabic).** |
| **Offered (semester and year):** | **1st semester-4th year (Level 7)** |
| **Faculty assigned (list all faculty assigned during the four semesters prior to the visit):** | **Dr. Mohammed A. Alshraim**  **Dr. Jamal SyafiqIlayan** |

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| **Number & Title of Course (total credits awarded):** | **ARCH 412 – Theory of Architecture -2 (2)** |
| **Course Description (limit 25 words):** | **This course concentrates on late- Modernism and post- Modernism. Emphasis shall be on works and trends of pioneers throughout those eras.** |
| **Course Goals & Objectives (list):** | 1. **A knowledge base of diverse intellectual trends in architecture.** 2. **Explain the reasons for the change of trends.** 3. **Architectural criticism.** |
| **Student Performance Criterion/ addressed (list number and title):** | 1. **Research in the field of theories of architecture and to work individually or through group.** 2. **Understand the Local and Western tradition.** 3. **Criticism and analysis of architectural trends.** |
| **Topical Outline (include percentage of time in course spent in each subject area):** | 1. **Course introduction (7%).** 2. **Sculptural Form(7%).** 3. **Archigramand Metabolism (14%).** 4. **Twenties Revivalism and Slick Tech(14%).** 5. **Monumental Expressionism and High- Tech (14%).** 6. **Deconstruction (7%).** 7. **Historicism, Straight Revivalism and New Vernacular (21%)** 8. **Metaphoric and Post- Modern classicism (14%)** |
| **Prerequisites:** | **ARCH 352 – Theory of Architecture -1** |
| **Textbooks/Learning Resources:** | 1. **Textbook: Jencks, C. (1991) The language of post-Modern Architecture, London: Academy.** 2. **Learning Resources: Internet.** |
| **Offered (semester and year):** | **1st semester-4th year (Level 7)** |
| **Faculty assigned (list all faculty assigned during the four semesters prior to the visit):** | **Prof. NamirHeikal Ismail**  **Prof. Nouby Mohammed Hassan** |

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| **Number & Title of Course (total credits awarded):** | **ARCH414 – Statics and Strength of Materials (2)** |
| **Course Description (limit 25 words):** | **The course is based on developing and enhancing the principles of mechanics and applying these principles to wide range of practical structural problems.** |
| **Course Goals & Objectives (list):** | 1. **To develop the thought process and discipline of the student to enable them to systematically solve problems regardless of difficulty.** 2. **Students should be able to develop confidence and competent.** |
| **Student Performance Criterion/ addressed (list number and title):** | 1. **Understand Concept related to structural modeling.** 2. **Ability to solve modeled structure by applying the principles of mechanics.** |
| **Topical Outline (include percentage of time in course spent in each subject area):** | 1. **Course introduction, Master the mechanics of vector Algebra. (14%).** 2. **Physical meaning of a force and moment equilibrium to ensure equilibrium for structures. (35%).** 3. **Concepts related to drawing a complete and correct Free Body diagram of forces and moment for the structure. (7%).** 4. **Method of Joints and method of Sections for the analysis of trusses. (14%).** 5. **Concept of Friction, Reaction forces and drawing Shear and Moment diagrams. (30%)** |
| **Prerequisites:** | **PHYS105 – Physics (1)** |
| **Textbooks/Learning Resources:** | 1. **Textbook: Meriam J.L. and Kraige, L.G. (20056th Edition) Engineering Mechanics STATICS, John Wiley & Sons, New York.** 2. **Learning Resources:**  * **Alexander and Gunaskera J.S, Strength of Materials , Ellis Horwood Limited ,1984.** * **Suter, Bowels / Russel . Mechanics of Engineering Materials ,1986.** * **Meriam JL, Engineering Mechanics, (Vols 1.2(Lioud, J.D., Architecture and the Environment, Laurence King (1998)..** |
| **Offered (semester and year):** | **1st semester-4th year (Level 7)** |
| **Faculty assigned (list all faculty assigned during the four semesters prior to the visit):** | **Dr. Ayman Mohamed Alkhatib**  **Eng. M. Kalimullah** |

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| **Number & Title of Course (total credits awarded):** | **ARCH 415 – Sanitary Installations (2)** |
| **Course Description (limit 25 words):** | **Introduce the students to sanitary appliances, principles of water supply, plumbing systems and sewage disposal, through lectures and hands-on experiences.** |
| **Course Goals & Objectives (list):** | 1. **Explain theoretical issues related to design of sanitary facilities, water supply, plumbing systems and sewage.** 2. **Train the students to design and detail sanitary facilities and plumbing.** |
| **Student Performance Criterion/ addressed (list number and title):** | 1. **Understand the concepts related to sanitary installations.** 2. **Be able to choose the appropriate plumbing systems and design sanitary facilities, plumbing and drainage in buildings.** |
| **Topical Outline (include percentage of time in course spent in each subject area):** | 1. **Introduction to water supply and sanitary installations (10%).** 2. **Hot and cold water supply and storage (15%).** 3. **Sanitary appliances (15%).** 4. **Exercise on layout design of sanitary facilities (15%).** 5. **Plumbing systems + Exercises (30 %).** 6. **Foul and surface water drainage (15%).** |
| **Prerequisites:** | **ARCH 366 – Building Construction I** |
| **Textbooks/Learning Resources:** | 1. **Textbook: Hall, F., Essential Building Services and Equipment, HienemannNewnes, Oxford** 2. **Burberry, P., "Environmental Services", Batsford Academic and Educational Ltd., London1997.** 3. **Barry, R. “The Construction of Buildings” , Vol.5 Building series ,Third Edition, Blackwell Science ltd.UK. 1998.** |
| **Offered (semester and year):** | **1st semester-4th year (Level 7)** |
| **Faculty assigned (list all faculty assigned during the four semesters prior to the visit):** | **Dr. Faisal Agabani**  **Prof. Osama Abdou** |

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| **Number & Title of Course (total credits awarded):** | **ARCH 416 – Building Construction -2(3)** |
| **Course Description (limit 25 words):** | **Secondary building elements and components: the principles of their design, types, performance, construction and installation through lectures, reports, site visits and practical exercises.** |
| **Course Goals & Objectives (list):** | 1. **Explain theoretical issues related to design of building components, their functional performance and construction, and their dimensional coordination.** 2. **Train the students to select and detail various building components and finishes.** |
| **Student Performance Criterion/ addressed (list number and title):** | 1. **Understand the concepts related to performance and construction of building components.** 2. **Be able to select the appropriate building components and finishes, and apply the principles of their construction and fixing details to practical exercises.** |
| **Topical Outline (include percentage of time in course spent in each subject area):** | 1. **Introduction to building components and finishes, their properties; the materials used and assembly and fixing procedures(10%).** 2. **Dimensional coordination and application to building elements and components (5 %).** 3. **Types and properties of partitions, ceilings, and types of floor finish (15%).** 4. **Openings, doors and windows, types, functional requirements and assembly details (10%).** 5. **External facings and claddings with stone, precast-concrete panels, and types of curtain walls (15%).** 6. **Thermal insulation, damp-proofing and rainwater drainage (5 %).** 7. **Practical exercises and reports (40%).** |
| **Prerequisites:** | **ARCH 366 – Building Construction I** |
| **Textbooks/Learning Resources:** | 1. **Textbook:Blanc A., Mitchell’s Internal Components, Pearson Education Limited. England, (1994)** 2. **Textbook:Blanc A., Mitchell’s External Components, Pearson Education Limited. England, (1994)** |
| **Offered (semester and year):** | **1st semester-4th year (Level 7)** |
| **Faculty assigned (list all faculty assigned during the four semesters prior to the visit):** | **Dr. Faisal Agabani**  **Prof. Mahmoud Eweda** |

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| **Number & Title of Course:** | **Arch 418 – History of Muslim Architecture (2)** | |
| **Course Description:** | **The overall development of Islamic Architecture and Urbanism until the beginning of 17thc. The course is based on selected monuments from both religious and secular spheres of Islamic world.** | |
| **Course Goals & Objectives:** | 1. **Enable students to analyze Muslim architecture through different Islamic eras within the geographical, climatically, religious and technical context.** 2. **Understand the design principles that formulated Muslim architecture,** | |
| **Student Performance Criterion/ addressed:** | 1. **To acquaint students with objects from a range of periods.** 2. **To introduce students to the many varied issues and concerns of Islamic Architecture including its methods, materials and techniques.** | |
| **Topical Outline:** | **Course Introduction** | **7%** |
| **Honorable Prophet's era & The Caliphs eras** | **14%** |
| **Umayyad / Abbasids / Ayyubids / Fatimid / Salukis / Mammluki /Ottoman** | **58%** |
| **Architectural developments and extensions of AL haram alsharif- Mecca &Almadeena** | **7%** |
| **Midterm Exam** | **7%** |
| **Later developments & Final discussion** | **7%** |
| **Prerequisites:** | **ARCH 368 - History of Urbanism** | |
| **Textbooks/Learning Resources:** | **Textbook:**  **Abdul Elkader Alrihawi, Architecture in Islamic Civilization, Jeddah, 1990.**  **Learning Resources:**  **John, Hoag: Islamic Architecture. Harry N. Abrams Inc., Publishers, New York, 1975.**  **RenataHolod, Hassan-Uddin Khan, The Contemporary Mosques, London, 1997.** | |
| **Offered** | **1st semester-4th year (Level 7)** | |
| **Faculty assigned** | **Dr. ImadOtahbachi** | |

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| **Number & Title of Course (total credits awarded):** | **ARCH 420 – Architecture Design -6 (4)** |
| **Course Description (limit 25 words):** | **This course aims to bring out the individual character of the student via training him to adapt a design philosophy and architectural trend.** |
| **Course Goals & Objectives (list):** | 1. **Languages and architectural traditions in architectural design.** 2. **The application ofrules andtraditions,languagesandarchitecture** 3. **Use the skills gained from previous phases.** |
| **Student Performance Criterion/ addressed (list number and title):** | 1. **Presentation and discussion of architectural ideas orally.** 2. **Critical and creative thinking in architectural design.** 3. **The use of drawing skills for free hand and Computer Graphics.** 4. **The application of local and Western traditions.** 5. **Systems understanding of construction and engineering systems.** |
| **Topical Outline (include percentage of time in course spent in each subject area):** | 1. **First project (28%)** 2. **Sketch Design (14%)** 3. **Second project (56%)** |
| **Prerequisites:** | **ARCH 410 - Architecture Design -5** |
| **Textbooks/Learning Resources:** | 1. **Textbook: Jencks, C. (1993) Architecture Today, London: Academy.** 2. **Learning Resources: Internet and books of building types.** |
| **Offered (semester and year):** | **2nd semester-4th year (Level 8)** |
| **Faculty assigned (list all faculty assigned during the four semesters prior to the visit):** | **Prof. Nouby Mohammed Hassan**  **Prof. NamirHeikal Ismail**  **Prof. Mohammed Abouelmaged**  **Dr. Abdul Rahman Al- Angary** |

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| **Number & Title of Course:** | **Arch 421 – Interior Design (2)** | |
| **Course Description:** | **Understanding interior design methods by going through the classical and modern styles,studying, space, color,lightand furniture style effects on interior design.** | |
| **Course Goals & Objectives:** | 1. **Defining the basics of Interior design and understanding its concepts & domains.** 2. **To introduce ways of expressing interior design elements.** | |
| **Student Performance Criterion/ addressed:** | 1. **Ability of students to manage spaces with furniture design.** 2. **Ability to combine color, and materials in an aesthetic way for interior spaces.** 3. **To fulfill the required needs of users (functional aspects).** 4. **To achieve a coherent composition of interior design elements (aesthetic aspects).** | |
| **Topical Outline:** | **1- Course Introduction.** | **7%** |
| **2- Space arrangement and circulation.** | **13%** |
| **3- Understanding color theory and its usage.** | **10%** |
| **4- Lighting (natural & artificial).** | **10%** |
| **5- History of furniture design** | **15%** |
| **6- Applications on Architectural spaces.** | **20%** |
| **7- Introducing way of Expressions & Models.** | **25%** |
| **Prerequisites:** | **None** | |
| **Textbooks/Learning Resources:** | **Textbook:**  **Ching, F.D.K. &Binggeli, c., Interior Design Illustrated,2ud Ed. (2005).**  **John Wiley & Sons, Inc.**  **Learning Resources:**  **Kilmer, Rosemary & Kilmer, W.O.Designing Interiors(1992).Thomson**  **Learning Inc,: New York, NY.**  **Panero, J. &Zelnick, M. Human Dimensions and Interior Space**  **( 1989 ) Watson Guptill Publications: New York,NY.** | |
| **Offered** | **2nd semester- 4thyear (Level 8)** | |
| **Faculty assigned** | **Dr. Youssef Al Bagoury** | |

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| **Number & Title of Course (total credits awarded):** | **ARCH 424: Facility Programming (2)** |
| **Course Description (limit 25 words):** | **Historical review of the development of facility programming;**  **Analysis of user’s needs, activity & functional scenarios, & finally, spatial requirements..** |
| **Course Goals & Objectives (list):** | 1. **To be able to analyze user needs.** 2. **To transform user needs into functional & spatial.** |
| **Student Performance Criterion/ addressed (list number and title):** | 1. **Knowledge of the role of facility programming in the design process** 2. **Understanding the theoretical, conceptual, & practical methods in architectural programming** 3. **Determining building requirements in terms of functional & social needs.** |
| **Topical Outline (include percentage of time in course spent in each subject area):** | 1. **Introduction to facility programming. 20%** 2. **Facility programming services. 10%** 3. **Data collection & analysis. 30%** 4. **Program stages & examples. 25%** 5. **Report synthesis. 15%.** |
| **Prerequisites:** | **None** |
| **Textbooks/Learning Resources:** | **Textbook:**  **Al-Mogren, A.S.:Architectural Programming & Pre-Design Manager (in Arabic), Scientific Publication, King Saud University(2007)..**  **Learning Resources:**   * 1. **Duerk, Donna: Architectural Programming- Information Management for Design Professionals, Van NostrandReinhold(1993).**   2. **Kumlin, Robert: Architectural Programming, Creative Techniques for Design Professionals (1993).**   3. **Pena,W.M. &Parshall,S.A.: Problem Seeking: An Architectural Programming Premier, 4th ed.,(2002)..** |
| **Offered (semester and year):** | **2nd semester, 4th year (Level 8)** |
| **Faculty assigned (list all faculty assigned during the four semesters prior to the visit):** | **Prof. Tarek M. Soliman** |

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| **Number & Title of Course (total credits awarded):** | **ARCH 425: Contracts, Quantities, and Specifications (2)** |
| **Course Description (limit 25 words):** | **Introduction to the government procurement system, and the types of contracts.**  **Introduction to building specifications and the study of the different methods of quantities calculations** |
| **Course Goals & Objectives (list):** | **Introduction to the government procurement system as a factor in contracting.**  **Study of types of contracts.**  **Study of building specifications and constituent clauses with emphasis on the Saudi General Specifications for Building Construction set by the Ministry of Municipality and Rural Affairs.**  **Study of the different methods of quantities calculations and design of bill of quantities tables.**  **To develop the ability to calculate quantities from architectural drawings using computers.** |
| **Student Performance Criterion/ addressed (list number and title):** | **Knowledge of terms and ideas of the course**  **The ability to implement ideas and solve problems**  **Participation in ongoing discussions**  **Demonstration of exercises solution by students**  **The ability to write a report to compare between different contracts and express opinion** |
| **Topical Outline (include percentage of time in course spent in each subject area):** | **Introduction to the procurement system, and the types of contracts. 35%**  **Introduction to building specifications 25%**  **Study of the different methods of quantities calculations 10%**  **Quantities calculations 30%** |
| **Prerequisites:** | **-** |
| **Textbooks/Learning Resources:** | Textbook:   * وزارة الشئون البلدية والقروية "المواصفات العامة لتنفيذ المباني" الرياض 1423ه   Learning Resources:   * وزارة المالية والاقتصاد الوطني "نظام المنافسات والمشتريات الحكومية - الصادر بالمرسوم الملكي رقم (م58) وتاريخ 4/9/1427هـ" مطبعة الحكومة، 1427هـ. * وزارة المالية والاقتصاد الوطني "اللائحة التنفيذية لنظام المنافسات والمشتريات الحكومية - الصادر بالمرسوم الملكي رقم (م/58) وتاريخ 4/9/1427هـ - صدرت هذه اللائحة بقرار وزير الماليةرقم (362) وتاريخ 20/2/1428هـ" مطبعة الحكومة، 1428هـ * وزارة الشئون البلدية والقروية, الإدارة العامة للشئون الإدارية والمالية " نموذج عقد أشغال عامة - حسب ما تضمنه قرار مجلس الوزراء الموقر رقم 136 وتاريخ 13/6/1408هـ" مطبعة الحكومة، 1408هـ. * وزارة الشئون البلدية والقروية"نموذج عقد الخدمات الهندسية الاستشارية (إشراف)الصادرة بقرار مجلس الوزراء الموقر رقم (259) في 11/11/1421هـ" مطبعة الحكومة، 1421هـ. * Ivory, H., Advanced Building Measurements, London, 198 |
| **Offered (semester and year):** | **2nd semester-4th year (Level 8)** |
| **Faculty assigned (list all faculty assigned during the four semesters prior to the visit):** | **Dr. Abdullah Mahmood**  **Dr. Hatem El Shafie** |

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| **Number & Title of Course (total credits awarded):** | **ARCH 246: Working Drawings (3)** |
| **Course Description (limit 25 words):** | **This course focuses on preparing and presenting working drawings, architectural details, and technical documentation for different types of projects.** |
| **Course Goals & Objectives (list):** | 1. **Understand the basic principles of working drawings.** 2. **Design Development of a previous project and applying knowledge related to engineering systems into this project (structural, MEP, environmental, and building envelop systems) in addition to consider life safety related issues in this project.** 3. **Prepare architectural details and wall sections in selected areas of the project.** 4. **Prepare technical documentation (drawings, specs, and B.O.Q).** |
| **Student Performance Criterion/ addressed (list number and title):** | 1. **Understand Building structural, environmental, MEP, and building envelop systems and related cost control issues.** 2. **Understand buildings’ life safety issues.** 3. **Ability to prepare technical documentation related to tender and construction.** |
| **Topical Outline (include percentage of time in course spent in each subject area):** | 1. **Introduction to the course and its requirements. 7%.** 2. **Design development of a previously designed project 14%** 3. **Applying and integrating different system to the project 35%** 4. **Preparing architectural details for different elements 21%** 5. **Preparing technical documentation. 21%** |
| **Prerequisites:** | **None** |
| **Textbooks/Learning Resources:** | **Text book:**  **Wakita, O.A.: The Professional practice of Architectural Working Drawings, John Wiley& Sons (1995).**  **Learning resources:**   * + **Wiggins, G.E.: A Manual of Construction Documentation, Whitney Library of Design (1989).**   + **Liebing, R.W.: Architectural Workings, John Wiley& sons (1990)..** |
| **Offered (semester and year):** | **2st semester – 4th year (Level 8)** |
| **Faculty assigned (list all faculty assigned during the four semesters prior to the visit):** | **Prof. Mohamed Aboulmaged**  **Dr. Ahmed Omar Mohamed** |

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| **Number & Title of Course** | **ARCH 427 – Lighting and Acoustic (3)** |
| **Course Description (limit 25 words):** | **This course studies the fundamental theory for the design and provision of a sustainable yet comfortable visual and audio environment in buildings.** |
| **Course Goals & Objectives (list):** | **1. The role of light and sound in the built environment.**  **2.The process of acceptable design for light and sound in buildings.**  **3. Introducing tools/instruments used in light /sound measurements.** |
| **Student Performance Criterion/ addressed (list number and title):** | **1. Knowledge and understanding of the subject.**  **2. Ability to apply acquired knowledge on similar cases.**  **3.Ability to analyze, study and research preparation and presentation.**  **4. Preparation of field reports.** |
| **Topical Outline (include percentage of time in course spent in each subject area):** | **1. Introduction, Lighting –acoustic and Architecture, fundamentals of lighting and acoustics in buildings. Measures, units and definitions 30%**  **2. Quality, Quantity of Illumination and Acoustical Design of Halls. 21%.**  **3. Natural Light Design (Sustainable Lighting), Daylight Calculations 10%.**  **4. Artificial Lighting Fixtures and layouts 4%.**  **5.Noise Control Basics and Fundamentals 12%** |
| **Prerequisites:** | **ARCH 250 and ARCH 255** |
| **Textbooks/Learning Resources:** | **1.Lighting Textbook:** أسس الإنارة المعمارية، أ.د. محمد عبد الفتاح عبيد، مطابع جامعة الملك سعود،الرياض  **2.Acoustic Textbook،سعود صادق حسن ، مطابع جامعة الملك سعود** الإضاءة والصوتيات في العمارة  **Learning Resources:**Architectural Lighting, Egan &Olgyay, McGraw Hill 2d Edition. |
| **Offered (semester and year):** | **2nd semester-4th year (Level 8)** |
| **Faculty assigned (list all faculty assigned during the four semesters** | **Dr. Abdel RahmanElbakheit**  **Prof.Osama Abdou** |

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| **Number & Title of Course (total credits awarded):** | **ARCH 430 Architectural Design -7 (5)** |
| **Course Description (limit 25 words):** | **Comprehensive design of complex or large span building, considering the integration of the various engineering systems, e.g. structure, electrical, mechanical, by defining the appropriate systems selected and their application in the project design.**  **Evaluation of final design will be on basis of the successful the integration of engineering systems into the architectural design while achieving high efficiency and sustainability.** |
| **Course Goals & Objectives (list):** | 1. **Study the various engineering systems in buildings and their impact on the project design.** 2. **Ability to select the appropriate systems and integrate them into architectural design of a complex or large span building.** |
| **Student Performance Criterion/ addressed (list number and title):** | 1. **Knowledge and understanding of subject. Ability to apply acquired knowledge on similar cases. Thinking, Critical / Creative** 2. **Ability to Analyze and study. Team work abilities** 3. **Positive participation and self expression. Preparation of Field Reports. Ability to locate resources and information** |
| **Topical Outline (include percentage of time in course spent in each subject area):** | * **Introduction to system types** * **Introduces to structure and electro-mechanical types**   **Site analysis and condition, case study and program. Research and presentation.**  **Architectural project (Analysis + Ideas ) 45%**  **Systems - Structure 15% , Sanitary 10%, AC 10%, lighting 10%, Safety 10%** |
| **Prerequisites:** | **ARCH 420, CE 265, ME 339,ARCH 427** |
| **Textbooks/Learning Resources:** | 1. **Allen, E., the Architect's Studio Companion, John Wiley & Son (1989).** 2. **Bovill, C., Architectural Design: Integration of Structural and Environmental Systems, VNR (1991).** 3. **Moore, F., Environmental Control systems, McGraw Hill (1993).**   **Lioud, J.D., Architecture and the Environment, Laurence King (1998).** |
| **Offered (semester and year):** | **1st semester-5th year (Level 9)** |
| **Faculty assigned (list all faculty assigned during the four semesters prior to the visit):** | **Dr. Ali Smaili,**  **Dr. Mohamed Bahobil,**  **Dr. AbdullahHussayen**  **Prof. Mohamed Eweida** |

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| **Number & Title of Course (total credits awarded):** | **ARCH 434 Graduation Project 1 - 3 (3)** |
| **Course Description (limit 25 words):** | **This course concentrates on program preparation for the graduation project. Each student is required to choose his own project. collect data and define his design problem by studying the functional and spatial requirements of his project.** |
| **Course Goals & Objectives (list):** | * **Help students to select proper graduation projects.** * **Guide students through selection and analyzing similar projects.** * **Help each student to define his design problem.** * **Make sure that students understand major design guidelines of their projects.** * **Guide students to implement ideas, methods and techniques of architectural programming that were studied in previous courses to develop an architectural program for their graduation projects.** |
| **Student Performance Criterion/ addressed (list number and title):** | 1. **Knowledge of terms and ideas of the course.** 2. **The ability to a crystallize a field of interest and select a proper project.** 3. **The quality of similar projects selected and analyzed.** 4. **The ability to identify the crucial aspects of his selected project.** 5. **The ability to analyze and define the functional and spatial requirement.** 6. **The ability to present work and express ideas.** 7. **The ability to write an architectural program report and the quality of it.** |
| **Topical Outline (include percentage of time in course spent in each subject area):** | 1. **Selection of project, location and size and collection of precedents. 20%** 2. **Data collection to define building type and context in more details. 20%** 3. **Determination of the functional, spatial requirements and sizes of the different spaces. 40%** 4. **Determine critical issues affecting the design program. 10%** 5. **Establish guidelines for design criteria. 10%** |
| **Prerequisites:** | **ARCH 424** |
| **Textbooks/Learning Resources:** | **Textbook:**   * **Hershberger Robert. Architectural Programming and Pre-design Manager,1999, McGraw-Hill. (1999)**   **Learning Resources:**   * **Duerk, Donna Architectural Programming-Information Management for Design, John Wiley & Sons, inc. (1993).** * **White Edward T. Site Analysis. Architectural Media. (2000).** |
| **Offered (semester and year):** | **9th Level** |
| **Faculty assigned (list all faculty assigned during the four semesters prior to the visit):** | **Dr. Mansour A. Al-Jadeed**  **Dr. Hatem Al Shafie** |

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| **Number & Title of Course (total credits awarded):** | **ARCH 435: Project Management (3)** |
| **Course Description (limit 25 words):** | **The course introduces students to the field of project management through number of theoretical concepts and practical applications.** |
| **Course Goals & Objectives (list):** | 1. **Understand basic concepts and characteristics related to Projects, Project Managers, and Project Management.** 2. **Gain skills related to solving problems related to Project scheduling, monitoring and Control.** 3. **Gain Basic skills related to using Project Management Computer applications (Microsoft Project).** |
| **Student Performance Criterion/ addressed (list number and title):** | 1. **Understand skill related to leadership, contract types, project time and cost estimation.** 2. **Ability to apply concepts related to project planning and scheduling in addition to teamwork.** |
| **Topical Outline (include percentage of time in course spent in each subject area):** | 1. **Introduction to Project Management: Projects, Project Manager, and the field of Project Management (21%)** 2. **Project Initiation: Contracts, Time and cost Estimation (14%).** 3. **Project Planning and Scheduling (35%).** 4. **Introduction to Risk Management (10%)** 5. **Basics of Project Monitoring and Control (10%)** 6. **Project Reviewing and Close-out (10%)** |
| **Prerequisites:** | **None** |
| **Textbooks/Learning Resources:** | 1. **Textbook:Maylor, Harvey, Project Management, Pearson Education Limited, England, 4e, 2008..** 2. **Learning Resources:- Klastorin, Ted, Project Management: Tools and Trade-offs, John Wiley and sons, 2004.** |
| **Offered (semester and year):** | **1st semester-5th year (Level 9)** |
| **Faculty assigned (list all faculty assigned during the four semesters prior to the visit):** | **Dr. Ahmed Omar M. S. Mostafa**  **Dr. Abdullah Mahmood**  **Dr.Rusli Abdullah** |

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| **Number & Title of Course (total credits awarded):** | **ARCH474 – Professional Practice in Architecture (2)** |
| **Course Description (limit 25 words):** | **The course examines the legal, ethical and managerial roles and responsibilities of architects in the practice of architecture.** |
| **Course Goals & Objectives (list):** | **The goal is to generate student’s understanding and appreciation of architecture practice by examining the following:**   1. **The general role and responsibilities of an architect at various stages of projects.** 2. **The process involved in setting up of an architecture design firm in the Kingdom of Saudi Arabia.** 3. **The legal, ethical and managerial matters related to achieving excellence in providing professional architectural services.** |
| **Student Performance Criterion/ addressed (list number and title):** | 1. **Understanding of the legal, ethical and professional role of architects.** 2. **Understanding of the administrative and leadership role of architects.** 3. **Understanding of the legal processes involved in setting up of design firm in Saudi Arabia.** |
| **Topical Outline (include percentage of time in course spent in each subject area):** | 1. **Course Introduction – Course schedule and assignment, development of the profession in the KSA, Influence of the SCE (Saudi Council of Engineers) (7%).** 2. **Roles and Responsibilities - Architect’s professional roles and responsibilities, code of professional conduct and ethics, types and form of practice (43%)** 3. **Starting Own Practice – Reason for starting own firm, registration and licensing requirement for starting own design practice in KSA (7%).** 4. **Managing Your Practice – Marketing and sale, financial management, negotiating fees and contracts, organization and personnel, resources and support, planning for excellence (43%).** |
| **Prerequisites:** | **None** |
| **Textbooks/Learning Resources:** | 1. **Textbook: Peter Pivens and Bradford Perkins (2003), Architect’s Essentials of Starting a Design Firm, John Wiley & Sons, New Jersey.** 2. **Learning Resources:**  * **Saudi Council of Engineers (SCE)** [**www.saudieng.org**](http://www.saudieng.org) * **Ministry of Municipal and Rural Affairs** [**www.momra.gov.sa**](http://www.momra.gov.sa) * **Saudi UMRAN Society** [**www.umransociety.com**](http://www.umransociety.com) * **American Institute of Architects (AIA)** [**www.aia.org**](http://www.aia.org) * **The Architecture Student’s Handbook of Professional Practice, 14th Ed. John Wiley& Sons, 2008.** * **The Architects in Practice, John Wiley & Sons, 2010.** |
| **Offered (semester &yr):** | **2nd semester-5th year (Level 10)** |
| **Faculty assigned (list all faculty assigned during the four semesters prior to the visit):** | **Dr. Moustafa M. Baleela**  **Dr. Abdullah Mahmood**  **Dr. Ibrahim Al Jowair** |

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| **Number & Title of Course (total credits awarded):** | **ARCH 495 - Graduation Project-2 (5)** |
| **Course Description (limit 25 words):** | **This course is the second part of the Graduation Project. In this course the student is required use the architectural program developed in Arch 434 to develop a project that expresses the abilities of the student and show developed technical, artistic and professional abilities.** |
| **Course Goals & Objectives (list):** | * **Gain knowledge and skills to design integrated projects.** * **To crystallize and architectural identity that is independent of the tutor** * **To be able to professionally express ideas and defend them** |
| **Student Performance Criterion/ addressed (list number and title):** | 1. **Knowledge of developing an integrated project.** 2. **Design concept generation and manipulation** 3. **Program satisfaction** 4. **Functional and Aesthetic architectural design** 5. **Engineering systems integration into architectural design.** 6. **Presentation of architectural work** 7. **Communicate design ideas using digital design media.** 8. **Present and defend design ideas** |
| **Topical Outline (include percentage of time in course spent in each subject area):** | 1. **Introduction, definition of terms, and course requirements. 5%** 2. **Initiating student design 5%** 3. **Presenting the architectural program of the project. 5%** 4. **Design and presentation of schematic design. 50%** 5. **Design Development 20%** 6. **Final Project Presentation 15%** |
| **Prerequisites:** | **ARCH 430 , ARCH 434** |
| **Textbooks/Learning Resources:** | **Textbook:**   * **Adler, D., (2007). Metric Handbook: Planning and Design Data, 3 ededition . Butterworth-Heinemann, Now: Elsevier, Oxford**   **Learning Resources:**   * **Clark, R., & Pause, M. (2004). Precedents in Architecture. Chichester: John Wiley & Sons.** * **Charleson, A., (2005). Structure as Architecture. London: Architectural Press. Press, E., (2004). The Phaidon Atlas of Contemporary World Architecture. Oxford Oxfordshire: Phaidon.** * **Jodidio, P., (2006). Architecture Now 4th Ed. .KöLn: Taschen.** * **Mendler, S., Odell, W., & Lazarus, M. (2005). The HOK Guidebook to Sustainable Design. New York: Wiley.** |
| **Offered (semester and year):** | **2nd semester-5th year (Level 10)** |
| **Faculty assigned (list all faculty assigned during the four semesters prior to the visit):** | **Dr. Salman Al Sedairy, Prof. ElsayedAmer, Prof. Mohamed Abouelmaged, Prof. Ali Bahammam, Prof. Osama Abdou, Prof. NamirHaikal, Dr. Hatem El Shafie, and DrHikmatHammad** |

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| **Number & Title of Course (total credits awarded):** | **SE 251 – Surveying for Non Engineers (2)** |
| **Course Description (limit 25 words):** | **The course is based on teaching the student the basics of surveying measurements, horizontal and vertical distances, simple computations of areas and volumes and using surveying tools for field measurements.** |
| **Course Goals & Objectives (list):** | 1. **Ability to apply knowledge of mathematics, science and engineering.** 2. **Ability to carry out field work using surveying instruments.** 3. **Ability to function in multi-disciplinary team** |
| **Student Performance Criterion/ addressed (list number and title):** | 1. **Understand Concept related to field measurements and directions.** 2. **Ability to measure vertical and horizontal distances in the field and perform area and volume computations.** |
| **Topical Outline (include percentage of time in course spent in each subject area):** | 1. **Course introduction, definitions, surveying types and applications (14%).** 2. **Distance measurements, tools, how to construct as built drawing and maps. Sources and types of measurements errors. (14%).** 3. **Area computations form field data and from maps. (14%).** 4. **Differential Leveling: Levels, Booking data and level computation (23%)** 5. **Applications of Leveling (profiles and contouring) - Cross-sectional area and Volume Computation and Land Grading (28%)** 6. **Introduction to Electronic Distance Measurement and Total Station,(7%)** |
| **Prerequisites:** | **Math 107** |
| **Textbooks/Learning Resources:** | 1. **Textbook: "Surveying with construction applications" by B. F. Kavanagh.** 2. **Learning Resources: "Introduction to Geomatics" by: P. Wolf and C. D. Ghilani** |
| **Offered (semester and year):** | **First semester / Third year** |
| **Faculty assigned (list all faculty assigned during the four semesters prior to the visit):** | **-Dr. AymanAguib**  **- Dr. IsmatAlHassan**  **- Eng. Ragab Al Gammal** |

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| **Number & Title of Course (total credits awarded):** | **CE 265 – Structural Analysis for Architect (2)** |
| **Course Description (limit 25 words):** | **Elementary structural analysis techniques; establishing different types of structures and degree of determinacy, calculating reactions and drawing diagrams for internal forces (axial force, shear, and bending moment) for determinate beams, trusses, frames, Arches and cables.** |
| **Course Goals & Objectives (list):** | **To provide the student with structural analysis techniques. Emphasis will be placed on hand calculation, engineering judgment and understanding the behavior of structural elements and systems.** |
| **Student Performance Criterion/ addressed (list number and title):** | 1. **Understand Concept related to structural analysis.** 2. **Ability to solve modeled structure by applying structural analysis techniques.** |
| **Topical Outline (include percentage of time in course spent in each subject area):** | 1. **Stability and Determinacy of Structures (21%).** 2. **Analysis of Trusses, Beams and Rigid Frames. (35%).** 3. **Analysis of Cables and Arches. (30%).** 4. **Calculation of Deflection. (14%).** |
| **Prerequisites:** | **ARCH 414–Statics and Strength of Materials** |
| **Textbooks/Learning Resources:** | 1. **Textbook: Russell C. HIBBELER (20025th Edition) Structural Analysis, Prentice Hall Inc., New Jersey 07458** |
| **Offered (semester and year):** | **2nd semester-4th year (Level 8)** |
| **Faculty assigned (list all faculty assigned during the four semesters prior to the visit):** | **Dr. Ayman Mohamed Alkhatib** |

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| **Number & Title of Course (total credits awarded):** | **CE 378– Design of Reinforced Concrete (2)** |
| **Course Description (limit 25 words):** | **Emphasis is on understanding the composition and properties of concrete. Also, become familiar with the use of the Building Code Requirements for Reinforced Concrete, ACI.** |
| **Course Goals & Objectives (list):** | * **To understand the composition and properties of concrete.** * **To become familiar with the proportioning, mixing and testing of concrete.** * **To become familiar with the use of the "Building Code Requirements for Reinforced Concrete, ACI 318.** * **To understand the principles of analysis and design.** |
| **Student Performance Criterion/ addressed (list number and title):** | **1. An ability to design a system, component.**  **2. An ability to identify, formulate and solve engineering problems.**  **3. An ability to use the techniques, skills and modern engineering tools necessary for engineering practice.** |
| **Topical Outline (include percentage of time in course spent in each subject area):** | 1. **Materials and Properties(30%).** 2. **Analysis and Design of R.C. Beams(35%).** 3. **Design of Slabs(14%).** 4. **Design of Short Columns(14%).** 5. **Design of Square Footings(7%).** |
| **Prerequisites:** | **CE 265–Structural Analysis for Architect** |
| **Textbooks/Learning Resources:** | **Textbook:No Text book** |
| **Offered (semester and year):** | **1st semester-5th year (Level 9)** |
| **Faculty assigned (list all faculty assigned during the four semesters prior to the visit):** | **Dr. Ayman Mohamed Alkhatib** |

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| **Number & Title of Course (total credits awarded):** | **ME 339 – Mechanical Installations (2)** |
| **Course Description (limit 25 words):** | **Introduce students to different air-conditioning systems and equipment, preliminary load estimation and duct sizing. Vertical transportation system selection and design. Interaction between these systems and architectural design is emphasized.** |
| **Course Goals & Objectives (list):** | 1. **To familiarize the student with different air conditioning systems, their advantages, disadvantages, applications and how they affect and interact with building architectural design.** 2. **Enable the student to select elevators (type, size, capacity, speed and number) and locate and arrange them in a given building.** |
| **Student Performance Criterion/ addressed (list number and title):** | 1. **Understanding the basic concepts in air conditioning and elevators** 2. **Being able to choose appropriate air conditioning and vertical transportation systems for a given building and do simple calculations.** |
| **Topical Outline (include percentage of time in course spent in each subject area):** | 1. **Introduction to mechanical refrigeration (7%).** 2. **Unitary air conditioning systems including packaged units (15%).** 3. **Central air conditioning systems (13%).** 4. **Air distribution and mechanical ventilation in buildings (15%).** 5. **Psychometry and evaporative cooling (15 %).** 6. **Air conditioning load estimation methods (15%).** 7. **Elevator Selection (20%)** |
| **Prerequisites:** | **None** |
| **Textbooks/Learning Resources:** | 1. **Stein, B. and Reynolds, J., Mechanical and Electrical Equipment for Buildings, J. Wiley & Sons, New York, N.Y., 9 th ed., 2000.** 2. **Harris, J., Modern Air Conditioning Practice, McGraw Hill, New York, N.Y, 1984.** |
| **Offered (semester and year):** | **1st semester, 4th year (Level 7)** |
| **Faculty assigned (list all faculty assigned during the four semesters prior to the visit):** | **Prof.Mohamed Zedan**  **Dr. ObidaZeitoun** |

|  |  |
| --- | --- |
| **Number & Title of Course (total credits awarded):** | **STAT 324 – Probability and Statistics** |
| **Course Description (limit 25 words):** | **This course introduces the basic principles of probability and statistics, descriptive and inferential statistics, data analysis, in addition to the theory of probability.** |
| **Course Goals & Objectives (list):** | 1. **Introduce the statistical theory and data analysis** 2. **Present the descriptive statistics ( central tendency and variability analysis** 3. **Present inferential statistics (correlation coefficient, regression, analysis of variance.** 4. **Introduce the probabilistic theory, set theory, probability distribution, binomial distribution, random variables.** |
| **Student Performance Criterion/ addressed (list number and title):** | 1. **Understand and apply knowledge on data analysis procedures.** 2. **Ability to interpretation of data and draw conclusions.** |
| **Topical Outline (include percentage of time in course spent in each subject area):** | 1. **Course introduction, definition of terms, and course requirements. (7%).** 2. **Probability theory (20%).** 3. **Descriptive statistics and data presentation through graphs (20%).** 4. **Inferential statistics (30%).** 5. **Analysis using statistical packages (23%)** |
| **Prerequisites:** | **None** |
| **Textbooks/Learning Resources:** | 1. **Textbook:T.T.Soong, (2004)Fundamental of Probability and statistics for engineers. John Wiley and Sons Ltd.** |
| **Offered (semester and year):** | **4th semester / 2nd year** |
| **Faculty assigned (list all faculty assigned during the four semesters prior to the visit):** | **To be assigned by Department of Statistics** |

**4.4 FACULTY RESUME**

**Name**: **AbdulazizSaad Al-Mogren**

Dean, College of Architecture & Planning

**Courses Taught (2008 – 2010):**

ARCH 330 : Architectural Design - 2

ARCH 465 : Humanities Applications in Architecture

ARCH 700 : Ph.D. Thesis

**Education Credentials:**

B. Arch., King Saud University, 1984

M.Arch., University of Houston, Texas, USA

D.Arch., University of Michigan, Ann Arbor, USA

**Teaching Experience:**

Assistant Professor , King Saud University, 1992 – 2001

Associate Professor, King Saud University, 2001 – 2007

Professor, King Saud University, 2007-todate

**Professional Experience:**

Team Leader for Consultant:

* Design review and development, College of Sciences & Administrative Building Al-Quaseem University.
* Design review and development, College of Medicine, Al-Quaseem University
* Design review and development, Girls Campus, King Saud University
* Design Two School Buildings, Ministry of Education
* Design review and development, Public Housing, Gurnata Campus 270 housing units) Riyadh

**Licenses/Registration**:

Not Applicable

**Selected Publications and Recent Research:**

* Commissioned by the Ministry of Education research projects on developing educational facilities standards and space program requirements.
* Commissioned by KACST to do a national research project on understanding the needs of physical handicapped students in public school buildings
* Author of more than 30 research and books publications on issues concerned with educational facilities, hospitals, architectural learning and programming.

**Professional Memberships:**

Al-Umran Saudi Association,

National Committee of Educational Technology & Techniques

Saudi Engineering Committee.

**Name: Yousef Mohammad O. Fadan**

Vice Dean Development and Quality

**Courses Taught (2008 – 2010):**

ARCH 452 : Housing

ARCH 485 : Traditional Architecture

**Education Credentials:**

B. Arch., King Saud University, 1974.

M.Arch., MIT Massachusetts, USA., 1977.

Ph.D., MIT Massachusetts, USA., 1983.

**Teaching Experience:**

Assistant Professor , King Saud University, 1983 – todate

**Professional Experience:**

* Vice Dean for Development and Quality
* Director of Prince Sultan bin Salman Chair for Architecture Heritage.
* Member, Academic Accreditation Committee College of Architecture &Planning.
* Part-time Consultant for General Commission of Housing.
* Member, Academic Committee for the development of Department's Academic Curriculum.
* Part-time Consultant for the Institution of King Abdullah bin Abdulaziz for His parents for Developmental Housing.
* Member, Committee for the Award of Arab Ministers of Housing and Construction, round 2000-2002, Cairo.
* Member of the Organizing Committee of Integrating the Architectural Heritage and Cultural Preservation in Architectural Education, College of Architecture & Planning, King Saud University, Riyadh, Saudi Arabia.
* Member of Dumat Al-Jandal Historical Sites, Preservation & Conservation Committee, Al Jouf Region, Saudi Arabia
* Member of Conservation & Rehabilitation of Architectural Heritage Historical Sites of Ad-dar'yah.

**Licenses/Registration**:

Not Applicable

**Selected Publications and Recent Research:**

* The Development of Urban Education in Saudi Arabia through Twenty Years, Ministry of Higher Education, King Saud University, Scientific Pub. Press,1423.
* Means of Arch. Educational Program Development in Arab Universities, J. of Al Ta'reeb, No.16, Damascus, Syria, 1998.
* Model Design for Evaluating Architectural Programs in Arab Universities, United Arab Universities Journal,No.34, 1998, Amman, Jordan.

**Professional Memberships:**

Al-Umran Saudi Association,

Member of ICOMOS.

**Name: Mohammed AbdulazizAlshraim**

Vice Dean Academic and Student Affairs

**Courses Taught (2008 – 2010):**

Arch 230 (Architectural Design 1) Arch 330 (Architectural Design 2)

Arch 244 (Man and Environment) Arch 465 (Humanities Applications in Arch)

Arch 600 Masters Thesis Arch700 Doctoral Dissertation

**Educational Credentials**:

B.Arch. College of Architecture and Planning, King Saud University, Riyadh, KSA 1987.

M.Arch. University of Kansas, Lawrence, KS, USA.1991.

Ph.D. in Architecture, Georgia Institute of Technology, Atlanta, GA, USA. 2000.

**Teaching Experience:**

Assistant Professor of Architecture, Department of Architecture and Building Sciences, College of Architecture and Planning, KSU, Riyadh, Saudi Arabia, 2000 – present.

Teaching Assistant - Department of Architecture and Building Sciences, College of Architecture and Planning, King Saud University, Riyadh, Saudi Arabia, 1987-1988.

**Professional Experience:**

Editor-in-chief, Alosrah Magazine, Riyadh, 2002-2006

Architectural and Engineering Consultant, Signtech. Riyadh & Jeddah, 2009.

Behavioral consultant, lahaonline.com, 2007- present.

Editorial advisor, Aldeerah Magazine, Al-Umran Society. Riyadh, 2007- present.

Vice Dean, College of Architecture and Planning, KSU, Riyadh, Saudi Arabia, 2009to date.

Editorial Committee Member of the Research Center at the College of Architecture and Planning, KSU, Riyadh, Saudi Arabia, 2007- present.

Consultant &Researcher, Center for Higher Education Research & Studies, 2009 to date.

**Licenses/Registration:**

N/A

**Selected Publications and Recent Research:**

Alshraim, M. *Annexes in domestic space*.Research center at the College of Architecture and Planning, King Saud University, Riyadh, 2008.

Alshraim. M. *Privacy in the Arabic Culture: Review and Analysis*. Journal of King Saud University 22, Architecture and Planning (1), 2010.

Alshraim, Mohammed. *Islamic Decorations: Their Genesis and Philosophy*. First international conference for Urban & Architectural Heritage in Islamic Countries: Its Role in Cultural & Economic Development. Saudi Commission for Tourism and Antiquities. Riyadh. 2010

Alshraim, Mohammed. *Interchangeable Use in Domestic Space*.Journal of Gulf and Arabian Peninsula Studies (Forthcoming).

**Professional Memberships:**

Al-Umran Saudi Association

**Name**: **Mansour Abdulaziz Al-Jadeed**

Chairman of Department of Architecture and Building Sciences

**Courses Taught (2008 – 2010):**

* ARCH 350 : Architectural Design - 3
* ARCH 434 : Graduation Project – 1
* ARCH 600 : Master Thesis

**Education Credentials:**

* **Ph.D**. in Architecture, Cardiff University, U.K., 1994
* **M.S.E.**, University of Michigan, Ann Arbor, U.S.A., 1989
* **B.Arch.** (with Honors), King Saud University, 1985

**Teaching Experience:**

* Associate Professor, King Saud University, 2004 – todate.
* Assistant Professor, King Saud University, 1994 –2004

**Professional Experience:**

**Team Leader for Consultant**:

* Supervisor of the General Directorate of Design & Studies, Vice Rectorate for Projects, King Saud University.
* Full Time Consultant for Designs & Studies, General Administration of Projects & Maintenance, King Saud University.
* Executive Director of the Reviewing Committee for the Designs of King Khalid University's Campus in Abha, King Abdullah Research & Consulting Institute.
* Team Leader for design review and development of many projects on campus (such as KSU Medical City, Documentation Center, Arabic Language Institute, etc).
* Part time consultant for High Commission for the Development of Riyadh on Earthen Architectural Center in Dereyiah.
* Supervisor of the renovation of Al-Bujaree traditional district at Dereyiah.

**Licenses/Registration**:

Not Applicable

**Selected Publications and Recent Research:**

* An Experiment in Teaching Urban Renovation through Summer Training of Students.
* Jurisprudence Control for Mosque Architecture and Maintenance.
* Mud Architecture in Arab & Western Countries.
* Indigenous Architectural Styles of South Western Region of Saudi Arabia.
* Earthen Architecture: Between Historical Experience & Future Expectation.

**Professional Memberships:**

* Al-Umran Saudi Association.
* Saudi Engineering Committee.

**Name**: **Ali S. O. Bahammam**

**Courses Taught (2008 – 2010):**

ARCH 450 : Architectural Design - 4

ARCH 470 : Architectural Design - 6

ARCH 490 : Graduation Project

**Education Credentials:**

B.Arch., King Saud University, 1981

M.Arch., McGill University, Montreal, Quebec, Canada, 1987

D. Arch. University of Michigan, Ann Arbor, Michigan, USA, 1992.

**Teaching Experience:**

Assistant Professor , King Saud University, 1992 – 1998

Associate Professor, King Saud University, 1998 – 2003

Professor, King Saud University, 2003 – todate

**Professional Experience:**

Consultant to the High Commission for the Development of Riyadh, Riyadh Development Authority.

Consultant to King Abdul bin Abdulaziz Organization for Housing Development.

Chairman of the Scientific Committee for three Housing Symposiums, (sponsored by ADA).

Member of the Real Estate Committee.(Riyadh's chamber of Commerce & Industry.

Member of the committee for development of model neighborhood.

Referee for a number of Journals in the field.

Chairman of Jury member for number of competition (architecture, housing, or urban design Projects).

**Licenses/Registration**:

Not Applicable

**Selected Publications and Recent Research:**

Author of ten published books and more than twenty research papers on issues concerned with urban design, housing and affordable dwelling.

**Professional Memberships:**

Al-Umran Saudi Association.

Saudi Engineering Committee

**Name: Mohammed A. Al-Hussayen**

**Courses Taught (2008 – 2010):**

ARCH 250 : Architectural Design - 1

ARCH 470 : Architectural Design 6

ARCH 571 : Integration of Building Systems

ARCH 363 : Housing

**Education Credentials:**

B. Arch., King Saud University, 1972

M. Arch., M.I.T, Cambridge , USA, 1975

D. Arch., University of Michigan, Ann Arbor, USA, 1980

**Teaching Experience:**

Assistant Professor , King Saud University, 1981 – 1993

Associate Professor, King Saud University, 1993 – 2001

Professor, King Saud University, 2001-todate

**Professional Experience:**:

Consultation to the following agencies:

- Higher Commission of Riyadh Development, Riyadh

* Ministry of Higher Education, Riyadh
* Umm al-Qura University, Mekkah
* Islamic University, al-Madinah
* Saudi Arabian Standards Organization, Riyadh
* Prince Selman Social Center< Riyadh
* King Abdulaziz Foundation for Gifted, Riyadh
* King Abdullah Bin Abdulaziz Foundation for Developmental Housing

**Selected Publications and Recent Research:**

* New Housing Projects in Saudi Arabia. IIHB Conference, Florida, International University, 1983.
* An Analytical Study of the Building Production Systems Recently Introduced in Saudi Arabia. KACST, Riyadh, 1989.
* Spatial Characteristics of Traditional Houses of Al-Medina. Architectural
* Science Review, Australia, vol. 42, Dec. 1999.
* Characteristics and Design Considerations of the Courtyard House. Journal of Architectural and Planning Research, vol. 12, no.2,1995.

**Professional Memberships:**

Al-Umran Saudi Association,

Saudi Council of Engineers

Council on Tall Buildings and Habitat

**Name**: **ElsayedAmer**

**Courses Taught (2008 – 2010):**

ARCH 331 : Studies in Environmental Control

ARCH 494 : Graduation Project

**Education Credentials:**

Ph.D., in Architecture, University of Liverpool, England, 1987.

Master in Urban Planning, Alexandria University, Egypt 1981

Diploma in Architecture, Madrid University, Spain, 1976

B. Arch. (grade Distinction, top of Egypt Graduates of 1975) Alex. University, 1975

**Teaching Experience:**

Assistant Prof., Department of Architecture, Alexandria University, 1988-1990

Assistant Prof., Faculty of Architecture, Beirut Arab University, 1991-1995

Associate Prof., Department of Architecture, Alexandria University 1995-1998

Professor, Department of Architecture, Alexandria University 1998-2000

Professor, Architecture Department, Kuwait University(2000-2008) Chairman(2003-2007)

Professor, College of Architecture and Planning, King Saud University, 2008-till today

**Professional Experience:**

Owner and Director of (APG), Architecture and Planning Group, Alexandria.

1st. Prize, Intl’ Competition of the Heritage Village of Kuwait, 2004.

1st. Prize, Intl’ Competition of Planning & Design of Khiran City, Sustainable City In The Desert of Kuwait. 2005

1st. Prize, Intl’ Competition of the National Bowling Center, Kuwait, 2006

1st. Prize, Intl’ Competition of Planning & Design, Sobah Al Ahmad City, Kuwait, 2007

1st. Prize, Intl’ Competition in the Cities 6 and 7 in the Desert of Kuwait, 2007

Member, College of Architecture & Planning, KSU Design Team, Winner of the National Competition for King Abdullah Waqf Project, Al Medina, 2008.

Member, College of Architecture and Planning, KSU Design Team, Winner of the Competition for King Abdullah Grand Expansion of the Grand Mosque, Mecca, 2010.

Team Member from the college of Architecture and Planning, KSU and Nikken Sekkei in the international of King Abdullah City for Renewable Energy, 2010

**Licenses/Registration**:

Not Applicable

**Selected Publications and Recent Research:**

1-Amer,a, and Al Mumen,a, (2004), Planning and Design of Environmental Settlement – A case study of Kuwait. Published in the Urban Environment Journal, September, Vol. 5, New Castle, England.

2-Amer, Elsayed and Hamdy, Inaas, (2005), The Formulation of Planning and Design Principles for Building in Desert Climate, A Case Study of the New Valley of Upper Egypt**,**Alexandria university Scientific Journal, Vol. 37, No.1, C1-C14. Alexandria, Egypt.

3- Amer, Elsayed, (2006) The Cultures of Intelligent Building Facades in the Gulf Region, presented in the international conference of the Asian Planning Schools Association , Penang, Malaysia.

4-Amer, Elsayed (2007), Environmental Assessment and Physical Form of Settlements, A case Study of Lebanon, presented and published in the conference proceeding, UN and BAU, in Lebanon, April, 2001

**Professional Memberships:**

Member in Egyptian Engineering Syndicate

Member in Egyptian Architecture Cooperative

**Name : Abouelmagd, Mohamed Abouelmagd**

**Courses Taught (2008 – 2010):**

Arch.495 : Graduation Project .

Arch.363 : Theories of Architecture (1) .

Arch.501 : Architecture Integration -Applied Studies .

Arch.503 : Advanced Design and Architecture research .

Arch.622 : Contemporary Architecture Thoughts .

Arch.690 : Seminar .

**Education Credentials:**

B.ScArch ,Alazhr University-Cairo, 1973.

M.ScArch ,Alazhr University-Cairo, 1979.

Ph.DArch ,Strathclyed University-Glasgow 1987.

**Teaching Experience:**

Lecturer: Alazhr University-Cairo, 1973 - 1979.

Assistant Professor :Alazhr University-Cairo, 1988.

Associate Professor: Alazhr University-Cairo, 1994.

Professor: Alazhr University-Cairo, 1999.

Professor: King Saud University-Riyadh, 2004

**Professional Experiences:**

*Practitioner* architect 1973. *Consultant* architect 1999.

Owner of ***MAGDCONS***ConsultantsArchitect, Engineers founded 1999. Cairo. *37 years of experience* in all consultancy aspects; design, tender and contracting document and supervision.

**Licenses/Registration:**

Practitioner Architect (4851-2. Egyptian Engineers Syndicate,1973 ).

Consultant Architect (2-793. Egyptian Engineers Syndicate,1999 ).

**Selected Publications and Research:**

*“Trends In Current Architecture Theory & Practice “*. Proceedings of MIU International Conference, Cairo, Egypt.

*“Expert Systems & the Externalization Of Knowledge In Architecture* “.URISA, Edmonton, Canada.

*“Simulating The Interaction With Clients And Users In Architecture Education*  Journal of Al Azhar University, Engineering Sector ISSN;1110-6409 Cairo, Egypt.

*“Postmodern Architecture Trends In Egypt”* Book,The Supreme council for culture, Egypt.

**Professional Memberships:**

Egyptian Engineers Syndicate,

Egyptian Architects Society

**Name**: **NamirHeikal Ismail Heikal**

**Courses Taught (2008 – 2010):**

ARCH 499 : Graduation Project - Design

ARCH 450 : Architectural Design - 4

ARCH 346 : Theory of Architecture -2

ARCH 475 : Contemporary Theories & Architecture

ARCH 503 : Advanced Design/Research

ARCH 513 : Special Topics in Architectural Theories & History

**Education Credentials:**

B.Sc. Arch., Assiout University, 1964

Architecte DPLG from the

EcoleNationaleSuperieure Des Beaux-Arts, Paris, France 1970

(Equivalent to Ph.D. from Egyptian Universities)

**Teaching Experience:**

Assistant Professor, Assiout University, 1971

Associate Professor, Assiout University, 1975

Professor, Sana’a University, 1988

Professor, King Saud University

**Professional Experience:**

Consultant for the design and preparation of working drawings for preparatory Year building - Aljouf University

Consultant and Jury member for Amanat Riyadh (Consultancy Unit)

Team member for design competitions in KSA:

- Project for AlwaqAlkhayry of the Custodian of the Two Holy Mosques,

International Competition in Al MedinaAlMonawara, First Prize

- The project for the enlargement of Almataf of AlharamAlsharif in Mecca.

**Licenses/Registration**:

Egyptian Syndicate of Engineers Architecture Chapter

**Selected Publications and Recent Research:**

* Curriculum Evaluation for Architectural Education, The Case of the Department

of Architecture & Building Sciences, King Saud University

* Model Design to Evaluate Architectural Education Programs in Arab Universities
* Methods to Develop Architectural Education Programs in Arab Universities

**Professional Memberships:**

Al-Umran Saudi Association,

**Name: Ossama A. Abdou**

**Courses Taught (2008 – 2010):**

Arch 331 Climate & Architecture; Arch 453 Lighting & Acoustics

Arch. Design, II; IV; V; and Arch 490 Graduation Project; Arch 501 Integrated Arch Workshop; Arch538 Special Topics In Environmental Design

**Educational Credentials**:

B.Arch. Engineering. Cairo University, 1978

M.Arch. University of Oklahoma, 1981.

D.Arch. University of Michigan, 1987.

**Teaching Experience:**

Professor of Architecture, King Saud University, Riyadh, Saudi Arabia, 2006 – to date.

Prof. of Architecture, Faculty of Engg, Misr International University, Egypt, 1997 – 2006.

Adjunct Professor, Dept of Engg, Construction Engineering Unit, The American University in Cairo, Cairo, Egypt, 1998 – 2006.

Assistant Professor, Architectural Engineering Program, Department of Civil & Architectural Engineering, Drexel University, Philadelphia, PA, USA, 1990-1996.

Lecturer, College of Arch. & Urban Plg, Univ. of Michigan, Ann Arbor, USA.1984-1986.

**Professional Experience:**

Consultant, Riyadh Techno Valley (RTV), King Saud University. Riyadh, January 2009

Consultant to, Saudi Food & Drug Authority (SFDA) HQ and Reference Labs.Riyadh, 2008.

Consultant, King Abdullah Inst. for Research & Cons. Studies, KSU, Riyadh, 2006- 2007.

Co-founder & President, Center for Building Env.Studies and Testing, Cairo1997- present.

Partner, Ahmed Abdou& Partners Arch.,Engg& Planning Consultants, Cairo 1987- present.

Freelance Architectural Engineering Consultant, Philadelphia, Penn., USA, 1990 - 1996.

**Licenses/Registration:**

*Registered Architect (# 4222/4),* Syndicate of Engineers, Arch. Engg.Section, Cairo, Egypt.

*Certified Consulting Architectural Engineer (# 2296/2),* Syndicate of Engineers, Arch. Eng. Section, Egypt.

**Selected Publications and Recent Research:**

Over 55 research papers published in Archival Journals and Conference Proceedings on Energy Conservation, Thermal Modeling, IAQ, Sustainable Buildings, Housing, Building Technology & Systems Integration, and Contribution to 8 books and 12 Technical Reports.

Aldakheel, R. and Abdou, O. (2008).Methods for Reducing the Cost of Interior Finishing in Small Housing Units in the City of Riyadh. Research sponsored by the Research Center of the College of Architecture and Planning, King Saud University.

**Professional Memberships:**

Syndicate of Engineers, Architectural Engineering Section, Cairo, Egypt

International Union of Architects (UIA), Paris, France. (Healthy Buildings Work Group); ASHRAE, Atlanta, GA.; American Soc. of Civil Engineers (ASCE), Architectural Engineering Division (AED), NY; International Solar Energy Society (ISES), Australia; American Society for Engineering Education (ASEE), Washington, DC, USA.

**Name: Nouby Mohammed Hassan**

**Courses Taught (2008 – 2010):**

ARCH 450 Architectural Design-4

ARCH 336 Theory of Architecture-1

ARCH 346 Theory of Architecture-2

ARCH 466 Form and Structure in Architecture

ARCH 475 Contemporary Theories in Architecture

**Educational Credentials:**

B.Arch., Assiut University, 1988

M.Arch.,Assiut University, 1991

D.Arch.,Assiut University, 1997

**Teaching Experience:**

Assistant Professor, Assiut University, 1998-2002

Assistant Professor, KSU University, 2002-2003

Associate Professor, KSU University, 2003-2008

Professor, KSU University, 2008-present

**Professional Experience**:

Design of more than 7 Residential Buildings and Villas.

Design of more than 6 Colleges.

Design f more than 3 Masjeds.

**Licenses/Registration:**

**Selected Publications and Recent Research:**

Author of more than 30 researches.

Author of more than 8 Books.

**Professional Memberships:**

Egyptian Engineers Syndicate.

**Name: HazemMohamed Ewais**

**Courses Taught (2008 -2010):**

ARCH 269 : Landscape Architecture.

ARCH 340 : Architecture Design – 3.

ARCH 353 : Principles of Urban Design.

**Education Credentials:**

B. Arch: Faculty of Fine Arts, Alexandria University Egypt, 1975

M. Arch: Faculty of Fine Arts, Alexandria University Egypt, 1981

Ph D. in Planning: Civic Design Dept. University of Liverpool, 1988, England

**Teaching Experience:**

Assisting Professor: Faculty of Fine Arts, Alexandria University, Egypt 1988 - 1995

Associated Professor: Faculty of Fine Arts, Alexandria University, Egypt 1995 - 2004

Professor: King Saud University, 2004 – today

**Professional Experience:**

- Many preliminary Housing Projects for both private and public sector.

- Many architectural and urban design competitions including public buildings and recreation areas.

**Licenses/Registration:**

* Member of the Division of Architectural Egyptian Engineering Syndicate.
* Member of the Egyptian Architects Association.
* Member of the Egyptian Planner Association.

**Selected Publications and Recent Research:**

* Rehabilitation of Historic and Heritage Areas and their Role in the Future of Cities (Case Study the City of Alexandria.
* The Role of Urban Design in the Formulation of Archaeological and Historical Sites in Alexandria (The Site of Maria).
* The Impact of Islamic Urbanization on South Europe Urbanization Character.
* Evaluation of Street Performance in Urban Areas.
* Housing in the Late Roman Republic (27 BC – 479 AD) a Historical and Architectural Review.
* The International Costal Road and its Impact on the development of North Delta.

**Professional Memberships:**

Member of the Division of Architectural Egyptian Engineering Syndicate.

Member of the Egyptian Architects Association.

Member of the Egyptian Planner Association.

**Name: Mohamed Mahmoud Abd Al MagueedEweda**

**Courses taught (2008-2010):**

ARCH 460: Design Studio 5

ARCH 416: Building Construction 2

ARC 466 : Form and Structure in Architecture

Graduate Course: Building Economy

**Education Credentials:**

* Doctor of philosophy, University of Pennsylvania, USA, 1979
* Master Degree in Architecture, College of Engineering, Cairo University , 1974
* BA of Architecture, College of Engineering, Cairo University, Grade very good with Honor degree, 1969

**Teaching Experience:**

- Professor at King Saud University, 2008 – now

- Professor at Arch. Dept, Faculty of Engineering, Cairo University since 1989 -2008

- Associate Professor at Arch. Dept, Faculty of Engineering, Cairo University from 1985-1989

- Assistant professor at Arch. Dept, Faculty of Engineering, Cairo University from 1980-1985

- A member of a university mission at the United States to attend the Ph.D. in the Philosophy of Architecture, from 1976-1979

- Lecturer at Arch. Dept, Faculty of Engineering, Cairo University from 1974-1976

- Administrator at Architecture department, Faculty of Engineering, Cairo University From1969-1974.

**Academic experiences:**

* Teaching in number of Universities in Egypt, the Arabic University in Beirut, and in King Saud University.
* In the field of researches supervision, 42 Master degrees, twenty PhD dissertations and Evaluation of many dissertations in Egyptian and Arabic Universities.
* In the field of researches, 44 researches in the field of Building Technology, published in National and international conferences and periodic.
* In the field of books publishing, three scientific books: 1- Building elements (series of parts), 2- Development of Architecture thinking in the 20th century, 3- New building Technology

**Professional Experience in Egypt:**

* 13 Administrative buildings
* Number of Villas and tourist villages
* 4 Mosques
* 15 Colleges and schools
* 8 Hospitals
* 4 Theaters and Conference Halls
* 2 Bank headquarters
* 8 Factories and exhibition halls

**Other activities:**

* Supervision of many periodicals
* Member in number of scientific & professional Committees
* Head and member of number of Code and Specifications Committees.

**Name: Salman T. Al Sedairy**

**Courses Taught (2008 – 2010):**

ARCH 490: Graduation Project

**Education Credentials:**

B. Arch., King Saud University, 1975

M. Arch., University of Washington, USA 1978

M. Urban Design, University of Washington, USA 1978

Ph.D., Sheffield University, UK 1985

**Teaching Experience:**

Assistant Professor, King Saud University, 1986 - 1995

Associate Professor, King Saud University, 1995 - to date

**Professional Experience:**

General Director for Projects, Ministry of Interior, Saudi Arabia

Consultant for A-E firms

Member of High Executive Committee for the University projects

**Licenses/Registration:**

Not applicable

**Selected Publications and Recent Research:**

Al-Sedairy,Salman. “The Management of Conflict: Public Sector Construction in Saudi Arabia”, International Journal of Project Management, Issue 12, No. 3 (1994).

Al-Sedairy,Salman, “Project Management in Public Sector: Saudi Arabia”, Project Management Journal, May 1994.

Al-Sedairy,Salman, “Marketing Architecture and Engineering Consultancy Services in the Public Sector in Saudi Arabia”, Journal of King Saud University, Volume 8, (1996).

Al-Sedairy,Salman, “A Change Management Model for Saudi Construction Industry”, International Journal of Project Management, Issue 19, No. 3, (2001).

**Professional Memberships:**

Al-Umran Saudi Association

Saudi Engineering Committee

Royal Society for the Encouragement of Arts, Manufacturing & Commerce (RSA), UK

Society of Authors

Association of Project Managers

British Institute of Management (BIM)

Construction Industry Computing Association, UK

Society of American Value Engineers

Project Management Institute

American Management Association, USA

**Name**: **Ibrahim R. S. Aljowair**

**Courses Taught (2008 – 2010):**

Arch 450 Design Studio VI – Architecture Languages

Arch 363 Housing

Arch 470 Design Studio IV – Urban Design ( Housing)

Arch 474 Professional Practice

Arch 480 Final Project Programming

**Educational Credentials:**

**Doctor of Architecture,** University of Michigan, Ann Arbor, US A, 1990

**M. Arch.,** University of Idaho, USA, 1984

**B. Sc.,** University of Riyadh, College of Engineering, Riyadh, Saudi Arabia, 1980

**Teaching Experience:**

**Associate Professor**, King Saud University, Riyadh, from 28/3/1428 – to date.

**Assistant Professor**, King Saud University, Riyadh, from 10/4/1411 until 27/3/1428.

**Teaching Assistant,** King Saud University, Riyadh, from 2/9/1400 until 9/4/1411.

**Professional Experience**:

**N/A**

**Licenses/Registration:**

**N/A**

**Selected Publications and Recent Research:**

**"The costly housing design & building practices and its role in increasing the total building cost". Symposium on Housing -2 in Riyadh, Riyadh Development Authority. 2005.**

**"The scope of application of general & specific handicapped services regulations in major buildings in the city of Riyadh".Symposium on Disabled People Transport. 2005.**

**"The scope of Saudization in Engineering & Consulting Firms licensed and registered to practice in the city of Riyadh". Journal of The Gulf & Arabia Peninsula Studies, 2006.**

**"The reality and expectation of thermal insulation of housing buildings: the case of Riyadh Saudi Arabia". Journal of Engineering Sciences, University of Assiut, Egypt, Vol. 34 No. 5, 2006.**

**"The role of roads, streets, and intersections' design in increasing traffic-circulation problems:The case of King Saud University campus". Journal of King SaudUniversity – Architecture and Planning, 2007.**

**"The over design of housing unit structure in the city of Riyadh and its role in maximizing the cost of the structural elements: An architectural point of view". Research Center College of Architecture and Planning, 2007.**

**"Architect's Professional Practice Manual", Translation to Arabic language.King Saud University, Riyadh, 2009.**

**The relationship between the period of waiting for the prayer and the cost of lighting and air conditioning of the mosque: A case study of mosques in Riyadh city". Journal of the Gulf and Arabia Peninsula Studies, 2009.**

**"The effects of design elements on the success or failure of housing projects: A case study of multi-story housing buildings". Journal of Al Azhar University Engineering Sector, 2009.**

**Professional Memberships:**

Saudi Institute of Architects

**Name: Mohammed Ali Bahobail**

**Courses Taught (2008 – 2010):**

ARCH 460 Architectural Design-5

PL 235 Introduction to Computer Drawing

**Educational Credentials:**

BSc in Architecture & Planning, King Saud University, College of Architecture & Planning, Riyadh, Saudi Arabia 1986

MSc in Environmental System,University of Kansas, School of Engineering, Lawrence, Kansas, U. S. A. 1991

PhD, in Environmental Control & Computer, Strathclyde University, College of Engineering, Glasgow, Scotland 1995

**Teaching Experience:**

Assistant Professor, Department of Architecture and Building Science,

College of Architecture & Planning, King Saud University.1995- 2006

Associate Professor, Department of Architecture and Building Science,College of Architecture & Planning, King Saud University.2006- Present

**Professional Experience**:

Consultant for Department of Maintenance, King Saud University. 2007

Member of referred supervision committee, High Commission for the Development of Riyadh 2006

Chairman of the scientific team of Building Standardization, King Abdullah research and consulting Institute. 2005

**Selected Publications and Recent Research:**

Mosques and Sustainable Traditional Technique, Seminar International, Heritage Conservation and Development in Educational Practice,( University Mentouri, Constantine. 2009).

Designing Home with Standard Components (Research Center-College of Arch. & Planning, KSU, 2009)

**Professional Memberships:**

Saudi Society of Science Architecture.

Saudi Council of Engineers.

**Name: Hatem M. EL Shafie**

**Courses Taught (2008-2010):**

ARCH 596 Computer Appl. in Architecture, ARCH 480 Graduation Project

ARCH 642 Architectural Programming ARCH 450 Architectural Design 4.

ARCH 340 Architectural Design 3.

**Education Credentials:**

1994 Ph.D. Arch. Eng.), Cairo University.

1990 M.Sc. Arch. Eng.), Cairo University

1987 B.Sc. Arch. Eng.), Cairo University

**Teaching Experience:**

2005 - Now Associate Professor Dept. of Architecture and Building Sciences, KSU.

2004 - 2005 Assc. Professor, Dept. of Architecture.Faculty of Engg, Cairo University.

1994 - 2004 Assis. Professor, Dept. of Architecture, Faculty of Engg, Cairo University.

1990 - 1994 Lecturer, Dept. of Architecture, Faculty of Engineering, Cairo University.

**Professional Experience:** Selected Projects:

1. 1998: 2nd Prize National Architectural Competition for the design of the Egyptian Embassy in Berlin, for the Ministry of Foreign Affairs, Egypt.

2. 1996: 1st Position, Competition for the rehabilitation, new additions, interior design, decorations and furnishing of the Residence of the Ambassador of the Kingdom of Saudi Arabia in Cairo, Egypt, for the Ministry of Foreign Affairs, KSA.

3. 1991: 1st Prize Architectural Competition for the design of the Saudi Arabian Embassy in Cairo & a Residential Building in Gizah, Egypt for the Saudi Arabian Government.

4. 1989: 2nd Prize in a National Architectural Competition for the design of the Egyptian Syndicate of Engineers Building in Alexandria, Egypt for the Egyptian Syndicate of Engineers.

5. 1988: 1st Prize in a National Planning and Architectural Competition for the planning and design of the City of Engineers, New Ameriiah, New Borj Al Arab City, Egypt.

6. 1987: 1st Prize in a National Architectural Competition for the design of Misr Insurance Company Residential/ Commercial Building, Gizah, Egypt.

7. 1987: 1st Prize in a National Architectural Competition for the design of Madinah Residential/ Commercial Building in Alexandria, Egypt for Alexandria Contracting Company.

**Licenses/Registration:**

Registered Architect, Syndicate of Engineers, Architectural Engg.Section, Cairo, Egypt.

**Selected Publications and Recent Research:**

1. El Shafie, H., & Maher, M. (2007). Computers in Architectural Recording: Photogrammetry Method. 4th Intl Conf.of the Dept of Architecture, Faculty of Engg. Cairo Univ.

2. El Shafie, H., & Maher, M. (2006). Computers in Architectural Recording: The Tacheometric Method. ArchCairo 2006 – Appropriating Architecture - 3rd International Conference of the Dept of Architecture, Faculty of Engg.Cairo Univ.

3. El Shafie, H., &Abd Allah, M. (2006). Computer Applications in Architecture: A Pilot Survey of the Usage in Egypt. 3rd Intl Conf.of the Dept of Architecture, Faculty of Engineering. Cairo University: Cairo.

4. El Shafie, H. (2005). Computer Applications in Architecture: Form Generation Tools. 2nd International Conference of the Department of Architecture, Faculty of Engineering.Cairo Univ.

5. El Shafie, H. (2004). Simulation of Pedestrian Circulation in Dining Halls.1st International Conference of the Department of Architecture, Faculty of Engineering. Cairo University: Cairo.

**Professional Memberships:**

1997 The Egyptian E Commerce Committee 1997 Internet Society of Egypt.

1995 Planning Association of Egypt. 1987 Engineers Syndicate of Egypt.

1987 Engineers Association of Egypt

1987 Arch. Assoc. of Egypt – the Egyptian Section of the Intl Union of Architects (UIA).

**Name: Mohamed SherifTawfik El-Attar**

**Courses Taught (2008 - 2010):**

ARCH 265 Computer Skills-1

ARCH 335 Computer-Aided Design

ARCH 355 Computer Skills-2

ARCH 340 Architectural Design - 3

ARCH 580 Design Methods

PLN 235 Introduction to Computer Drafting

**Education Credentials:**

1997 Ph.D. Arch. Al-Azhar University, Cairo, Egypt, and Cal Poly State University, San Luis Obispo, CA, USA.

1988 M.A. Arch. Al-Azhar University, Cairo.

1980 B.A. Arch. Al-Azhar University, Cairo.

**Teaching Experience:**

2004 – to date Assistant Professor, King Saud University.

1998 – 2004 Assistant Professor, Al-Azhar University,

1998 – 2003 Visiting Professor, Misr International University, Cairo.

1998 – 2003 Visiting Professor, Cairo Higher Institute for Computers, Information & Management, Department of Architecture, Cairo.

1981 - 1993 Lecturer, Department of Architecture, Faculty of Engineering, Al-Azhar University, Cairo.

**Professional Experience:**

1990 - 1999 Private practice

1986 - 1988 Head of the Architectural Design Group - Gafaar Engineering Consultants (GEC)

1982 - 1984 Private practice

1981 - 1982 Architect - (PAC), Cairo, Egypt.

1980 - 1981 Architect - Engineering and Consultation Office

**Licenses/Registration:**

1980 Syndicate of Egyptian Engineers - membership (514491)

**Selected Publications and Recent Research:**

El-Attar, M. S. and Sayed, A. O.(2010) "Sustaining Information in a Knowledge Intensive Environment" [Conference on Technology & Sustainability in the Built Environment, 3-6 January 2010], College of Architecture and Planning, KSU, Riyadh, KSA.

El-Attar, M. S. (2008) "Users Participation in the Design Process" in Affordable Housing (Ed.) Bahammam, A., Arriyadh, KSA.

El-Attar, M. S. and Ibrahim, H. Y.; (2007) "Influence of Residential Urban Environment Structure on Privacy and Thermal Comfort in Hot-Arid Zones" [Proceedings of Housing 3 International Symposium, High Commission for the Development of Arriyadh, Arriyadh, KSA, May 20 - 23, 2007]

**Professional Memberships:**

1980 Syndicate of Egyptian Engineers - membership (514491)

**Name: Abdullah Mahmood**

**Courses Taught (2008-2010):**

ARCH 464: Contract, Quantities & Specifications

ARCH 474: Architectural Professional Practice

ARCH 578: Special Topics In Building Economics & Project Management

ARCH 590: Research Methods in Architecture

ARCH 599: Selected Topics In Architectural Research

**Education Credentials:**

Ph.D. (Building) Heriot-Watt University, Edinburgh, United Kingdom (1992)

Master in Construction Management, Washington University in St. Louis, USA (1984)

B.Sc.in Housing, Building & Planning Hons.USM, Penang, Malaysia (1981)

# Teaching (& Supervision) Experience:

Associate Professor, King Saud University, 2008 - to date.

Associate Professor, University of Science Malaysia, 1996 - 2008.

Lecturer, University of Science Malaysia, 1984 - 1995.

Research Supervision - successfully supervised 3 PhD and 34 M.Sc. students.

**Professional Experience:**

Secretary, Quality Assurance Advisory Committee, College of Architecture & Planning, King Saud University, 2009 - to date)

Secretary, Campus Planning & Physical Development Committee, University of Science Malaysia, Feb. 2000 – May 2008.

Chairman of Construction Management Program, Feb. 1999 – Dec. 2006.

Head of Finance Section, Panel of Specialist for the Development of Course Modules For Construction Managers, Construction Industry Development Board Malaysia 2004 -2006.

Deputy Dean, School of Housing, Building & Planning, USM (October 1994 – June 1998).

**Research and Publications:**

Successfully completed 15 research consultancies and research studies for Public and Private Organizations in Malaysia. (Cumulative grant valued more than RM15 Million).

Published and presented research & academic work in refereed Journals and Conferences (30), Research Reports (13) and Books (2) at International and National level.

# Professional Memberships:

Member, Project Management Institute, USA. Since 2003.

Treasurer, MiCRA (Management in Construction Researchers Association, MALAYSIA), September 2002 – October 2005.

Member, Association of Researcher’s in Construction Management, UK. Since 1990.

**Name: Ayman Mohamed Alkhatib**

**Courses Taught (2008 – 2010):**

ARCH 265: Structural Analysis for Architect

ARCH 332: Statics and Strength of Materials

CE 378: Design of Reinforced Concrete Structures - I

**Education Credentials:**

BS.CE. Damascus University, 1983

MS.CE. University of Wisconsin, Madison, USA

PhD. CE. University of Arizona, Tucson, USA

**Teaching Experience:**

Assistant Professor, Damascus University, 1993 – 2001

Associate Professor, Damascus University, 2002 – 2003

Associate Professor, King Saud University, 2003-todate

**Professional Experience:**

* Analysis and of steel Doom for Saudi - Consult.
* Strengthening of Toyota Steel building in Riyadh
* Design review for the Extension of Civil Engineering Building in Damascus
* Safety Inspection of the construction of Humanities Collage Extension
* Concrete Lab supervisor at the Collage of Civil Engineering, Damascus University

**Licenses/Registration**:

Not Applicable

**Selected Publications and Recent Research:**

The Effective Length of Columns by Interaction of Bifurcation Analysis and AISC Specification, University of Damascus Journal for Engineering Sciences,

Comparative Analysis for Selecting a Renewable and Environmentally Healthy Energy Source for use in Buildings in Arabian Peninsula, Especially Saudi Arabia. Conference on Technology & Sustainability in the Built Environment

**Professional Memberships:**

Syrian Syndicate of Engineers

Member on the committee of Engineering Education

**Name**: **Kamarulzaman Bin Yusof**

**Courses Taught (2008 – 2010):**

ARCH 255 : Architectural Graphic Skills

ARCH 269 : Introduction Landscape Architecture

ARCH 353 : Principles of Urban Design

ARCH 470 : Architectural Studio 06 Urban Design

ARCH 360 : Architectural Studio 04 Urban design

ARCH 503 :Post Graduate Thesis Advisory

**Education Credentials:**

Diploma Arch., InstitutTeknologi MARA, 1980

Bach. Arch., University of Newcastle, New South Wales, Australia, 1985

M. Sc.Urban Design, Pratt Institute, Brooklyn, New York, USA. 1999 (Pratt Institute Cert of Excellence)

Cert. Modernisation of Japan, IATSS Forum, Suzuka, Japan. 1990

Cert. Architecture & Development, Lund University, Sweden. 1991

**Teaching Experience (1986 - )**

Associate Professor, King Saud University, 2008 – to date

Associate Professor, University Teknologi MARA, 2001 –2008 (Cert of Merit)

Lecturer, University Teknologi MARA, 1986 – 2000

Adjunct Professor, UiTM/University of Science & Technology, Sana’a, Yemen. 2005 – 2007

(Coordinator for Collaboration between UiTM/USTY)

Design Lecture Series: Courses for Technical Assistants in Public Works Department, Malaysia.

Design and Entrepreneurship : Nationwide Tour Lecture series for MARA.

**Professional Experience:**

Designer/Design Architect for Architectural Consultant Practice (1978 – 2008):

* Designs of residential development projects, and mass housing of various classes.
* Design of various retail, commercial, and light-industry buildings, and mixed-use development projects and various institutional and recreational buildings.
* Execute drawing production and project meetings with clients and various industry related consultants.
* Consultancy for Interior Design proposals & projects for offices and private residences.

**Selected Publications and Recent Research:**

* Public Theme Parks: Implementation Guidelines for Design and Proposal, for Department of City & Regional Planning, Malaysia. (1999- 2000)
* A survey of Squatter Houses, Illegal Industrial Premises and illegal Small Business Premises, within the City district Shah Alam, for Shah Alam City Council / UiTM Research Consultancy Unit.
* Glossary of Terminology for the Built Environment. Co-author, DBP, 1994.

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**Professional Memberships:**

* LembagaArkitek Malaysia (Board of Architects Malaysia, (AG/K 42)1978 -2008
* Malaysian Society of Interior Designers. Corporate member(CM388) 2006 -

**Name: Faisal Agabani**

**Courses Taught (2008-2010):**

ARCH 266: Building Materials

ARCH 366: Building Construction – I

ARCH 366: Building Construction – II

ARCH 415: Sanitary Installations

ARCH 462: Facility Programming

ARCH 460: Architectural Design – 5

ARCH 340: Architectural Design – 3

ARCH 480: Graduation Project Program

**Education Credentials:**

Ph. D. in Architectural Design, University of Sheffield, U.K. 1981

M. Sc. in Environmental Psychology, University of Surrey, U.K. 1976.

B.Sc.(Honors) Architecture, University of Khartoum, 1972.

# Teaching Experience:

Associate Professor: College of Arch & Planning, King Saud University, 1996 to date.

Associate professor and Chairman: Dept. of Architecture, Applied Science University, Amman, Jordan, 1993 - 1996.

Assistant Professor: Univ. of Science & Technology, Jordan Sep. 1991 - Sep. 1993.

Visiting Professor: U.A.E. University, Oct. 1984 - Jan. 1985

Assistant Professor: Dept. of Architecture, Univ. of Khartoum 1981 – 1991 (& Chairman)

Professional Experience:

Architectural Program for: 1.Girls University Campus, KSU, 2. Al-Jouf University Campus. 3. Prince Sultan Advanced Technology Research Centre KSU.

Architectural Program & Concept for Riyadh Techno Valley Admin. Building at KSU, 2008.

**Selected Research and Publications:**

"Samad and North Jordanian Villages", the International Symposium on Conservation of Architectural Heritage, JordanUniversity, Amman, Nov. 1993.

“A Strategy for Teaching CAAD, Case Study at Applied Science University", Open House International, Vol. 20, No. 2, 1995.

“Rationalizing Cost of Sanitary Pipe-work in Affordable Residence”, Second Symposium on Housing, Riyadh, P. 853, March 2004.

Quantitative Analytical Study of Air Pollution by CO in Central Amman, an Application of Mathematical Modeling”, Journal of College of Engineering, Assiut Univ., Vol. 32, No. 2, 2004.

“Curricular Reform and the Impact of ICT on Architectural Education: Case Study at King Saud University”, The Saudi Journal of Higher Education, Issue 3, Aug 2005 – Jan 2006.

# Professional Memberships:

Design Research Society (DRS), United Kingdom (in 1980s).

Sudanese Architects Society, Sudan.

**Name: Mahamood Che Hussin**

**Courses Taught (2008 – 2010):**

ARCH 255 : Architectural Graphic Skills

ARCH 260 : Architectural Design 2

ARCH 350 : Architectural Design 3

**Education Credentials:**

Diploma in Architecture, UTM, Malaysia, 1975

B. Arch., University of Auckland, New Zealand, 1980

M. Arch., University of Nottingham, United Kingdom, 1992

**Teaching Experience:**

Associate Professor, UniversitiTeknologi Malaysia, 2000 – 2007

Associate Professor, SPACE UTM, Kuala Lumpur (part-time), 2001-2006

Associate Professor, King Saud University, 2008-todate

**Professional Experience:**

Architect, Development Office, UTM, Kuala Lumpur, 1980-1985

Senior Architect, Development Office, UTM, Skudai, Johor, 1985-2000

**Licenses/Registration**:

Not Applicable

**Selected Publications and Recent Research:**

Design Criteria for Socially Conducive Campus Environment for Higher Education

Establishment in Malaysia

**Professional Memberships:**

LembagaArkitek Malaysia

Malaysian Structural Steel Association

**Name**: **Abdel RahmanElbakheit**

**Courses Taught (2008 – 2010):**

ARCH 331 : Climate and Architecture

ARCH 330 : Architectural Design - 2

ARCH 453 : Lighting and Acoustics

**Education Credentials:**

B.Scin Architecture, University of Khartoum, Sudan, 1994

M.Sc in Renewable Energy & Architecture, Nottingham University UK, 2002

Ph.D. Nottingham University, UK, 2007.

**Teaching Experience:**

Assistant Professor , King Saud University, 1992 – 2001

Part time Lecturer, Nottingham University

**Professional Experience:**

Professional Architect 1995 – 1998 in Sudan

Professional Architect 1998 – 2001 in Saudi Arabia

Part time Architectural Staff since 2003 – 2007 in UK

**Licenses/Registration**:

Consultant Architect, Sudanese Engineering Council, Khartoum.

RIBA I.

**Selected Publications and Recent Research:**

Architectural Façade Design with Photo Voltaic Using CFD.

Effect of Duct width in ducted photovoltaic facades

**Professional Memberships:**

Sudanese Architects Association (Consultant Architect)

Sudanese Engineering Council.

**Name**: **HikmatH.Ali**

**Courses Taught (2008 – 2010):**

ARCH 460 : Architectural Design - 5

ARCH 366 : Building Construction I

ARCH 239 : Construction for Civil Engineering

ARCH 266 : Building Materials

ARCH 590: Research Methods

**Education Credentials:**

B. Arch., Yarmouk University, Irbid-Jordan 1986

M.Arch., The University of Jordan, Amman-Jordan, 1992

Ph.D. ., Texas A&M University, College Station, Texas, 1999

**Teaching Experience:**

Assistant Professor, Jordan University of Science and Technology, 2000-2009

Associate Professor, Jordan University of Science and Technology, 2009-todate

Assistant Professor, King Saud University, 2008-todate

**Professional Experience:**

Private Practice, 1986-2008

Architect &Researcher , Research and Planning Department, The Municipality of Mafraq, Jordan 1988-1992

Site-Construction Engineer, The Municipality of Mafraq, Jordan 1986-1988.

**Licenses/Registration**:

Member of Jordanian Engineers Association- Architectural Division.license #, 1303.

**Selected Publications and Recent Research:**

Ali, Hikmat, **Al Nsairat Saba. (2009):** Developing a green building Assessment tool for developing countries – Case of Jordan. *Building and Environment.44, vol 5, 1053-1064.*

Ali, Hikmat, Al-Momani, H, Hendyeh,M. (2009): *Evaluating Indoor Environmental Quality of Public School Buildings in Jordan,Indoor and Built Environment.18;1:66–76.*

Ali, Hikmat. H. Malkawi, F, and Al Betawi, Y (2009): Quality of life in Cities: Setting up Criteria for Amman-Jordan. *Social Indicator Research Journal. 93, #2*, 407-432

Ali, Hikmat , Al-Momani, H. (2008): Sick Building Syndrome in Apartment Buildings in Jordan. *Jordan Journal of Civil Engineering, 2, (4).*

Abu-Obeid N, Hassan, Ali Hikmat. (2008): Quantifying the aesthetics of non-conventional structures- A comparison between Architects, Engineers and Non-experts. *Structural Survey, 26, 2, 91-107*

**Professional Memberships:**

Member of Building Technology Educator.

ASCAAD - Arab Society for Computer Aided Architectural Design.

Associate Member of Texas Society of Architects

**Name: Ahmed Omar M. S. Mostafa**

**Courses Taught (2008 – 2010):**

1. ARCH 340- Design Studio-5

2. ARCH 355- Computer Skills (2)

3. ARCH 435- Project Management.

**Educational Credentials:**

Phd.,Msc., Bsc., in Architectural Engineering.

**Teaching Experience:**

Teaching Assistant. (1994-1998)

Assistant Professor. (2001-2007)

Associate Professor. (2007-Current)

**Professional Experience:**

Real estate and pre-design activities.

Architectural/Urban/Landscape Design and Construction Documents

Project / Construction Management.

**Selected Publications and Recent Research:**

Technology of digital urban heritage.

Guideline for activating computer rule in architectural design- heat insulation.

Guideline for activation computer rule in architectural design- architectural acoustic.

Residential Lot Fences: Factors Affecting Streets’ Visual Identity.

A Holistic Approach to the Concept of "Smart Houses" For energy conservation.

Sustaining Information in a Knowledge Intensive Environment.

The Reference in Affordable housing (Book).

Decreasing Finishing cost for affordable housing (Book).

**Professional Memberships:**

Engineering Syndicate, Egypt

Saudi Association for Urban Sciences, KSA

**Name: Jamal ShafiqIlayan**

**Courses Taught (2008-2010)**:

ARCH. 230 Architectural Design 1.

ARCH. 330 Architectural Design 2.

ARCH. 350 Architectural Design 3.

ARCH. 450 Architectural Design 4.

ARCH. 465 Humanities Application in Architecture

ARCH. 341 Interior Design.

ARCH. 239 Architectural construction for Engineering Student

ARCH. 341 Traditional Architecture in the KSA.

ARCH. 148 Architectural History

**Education Credentials**:

PhD. Rome University - Italy 1996

H. D. Rome University - Italy 1990

B. Naples University – Italy 1986

**Teaching Experience**:

Associate Professor, King Saud University 2007 – to date.

Assistant Professor, King Saud University 2005 – 2007

Assistant Professor, Yarmouk University 2001 - 2004

Research Assistant and Lecturer – Naples University – Italy 1996 - 2000

**Professional Experience**:

Conservation Consultant for Castle Fahed restoration - Daryyah

Conservation Consultant for Castle Ibrahim restoration – Daryyah

Presentation and Preservation Works at Umm ArRasas (listed in the International Heritage Listing) Financed by: European Commission MEDA Program 2004.

Consultant of Restoration Manger and Museum Manager of the Abu Jaber Salt – Jordan 2004.

Urban Rehabilitation of Corso Umberto I e Piazza Spirito, Analyses, Interpretation and Presentation of two important areas in the historic city center of Marano di Napoli 1999.

**Licenses / Registration**:

Jordanian Engendering Union - Amman

Italian Architects Union – Naples

**Selected Publication and Recent Researches**:

*Cultural Heritage Conservation, To an Arab School of Conservation and Management of the Cultural Resources*

Architectural and Structural elements analysis in Mud Buildings in Darayya

**Professional Membership**:

- Al Umran Saudi Association - Riyadh

- ICOMOS International Counsel on Monuments and Sites member, Paris, France.

- A.I.C.A.T. Italian Cultural Association of Molding Architecture, Rome, Italy.

**Name**: **ImadEddinOtahbachi**

**Courses Taught (2008 – 2010):**

ARCH 260 : Architectural Design - 2

ARCH 348 : History of Islamic Architecture

ARCH 418 : History of Islamic Architecture

ARCH 148 : History of Architecture

ARCH 521 : Principles of Designing Facilities and Installations

**Education Credentials:**

B. Sc., Arch., Damascus University, 1983

PhD, University of Rome, La Sapienza, Roma, Italy, 1995

**Teaching Experience:**

Assistant Professor, Damascus University, 1996 – 1999

Assistant Professor, King Saud University, 1999 – to date

**Professional Experience:**

Consultant, Saudi Commision for Tourism & Antiquities, Riyadh.

Alsaha Office, Architectural, Engineering & Planning Consultants, partnership, Riyadh

Consultant, Al-Otaishan Office, Architectural, Engineering & Planning Consultants, Riyadh.

C.B. Center (Creating & Building Center).Own office in Damascus. The firm provided full-service multidiscipline architectural engineering services:

Chief of Design Department in Berardi - Housing and Prefabrication Company - (home sweet home), Ponte San Giovanni, Italy.

Director of Engineering Department at Ministry of Endowments (Awqaf) in Damascus.

Team Leader for Consultant Architect at Dept of Architecture and Engineering in Ministry of Awqaf in Damascus.

**Licenses/Registration**:

Not Applicable

**Selected Publications and Recent Research:**

*The Form: From Mosques' Minraret At Domat Aljandal To Fosters' Faisalia Tower At Riyadh,* Il progetto No 35, periodical of architecture, in Italian and English, Rome, Italy,

*The Architectural Characteristics Of New Mosques In Riyadh: “Towards The Architectural Elements Rooting”*, King Saud University periodical, volume XX, in Arabic Muharram 1429 AH.

*Techniques for Reducing Costs of Interior Finishing Materials for Small Housing Units in Saudi Arabia: Case Study: Investment Projects in the City of Riyadh.* A National Research Project (DSR-AR02) sponsored by King Saud University.(*In print*).In Arabic.

*Temple Of Jupiter In Damascus*, L'Informatore del Marmista, No 543, (Periodical of architecture), in italian and English, Italy - Verona, AD- 1428 AH.

**Professional Memberships:**

The Syrian Architects Society, Damascus Syria.

Saudi Council of Engineering, Riyadh, KSA.

AlUmran Saudi Association, board member, Riyadh, KSA.

Order of Syrian Engineers Damascus, Syria.

**Name: Ali SaeedSmaili**

**Courses Taught (Four semesters prior to current visit):**

Studio 3 (environment), Building Construction I, Building Construction II, Sanitary, Studio 7 (systems).

**Educational Credentials:**

Architect (Lebanon 1999), PhD in Light weight structures (France 2004)

**Teaching Experience:**

2002-2004 College of Architecture of Languedoc-Roussillon (France)

2005 – 2007 Lebanese University (Lebanon)

2008- until now King Saud University (Saudi Arabia)

(For more detail see the attached file)

**Professional Experience:** See attached file

**Licenses/Registration:**

Order of Architects and Engineers ( Lebanon)

**Selected Publications and Recent Research:**

Smaili A. and Motro R., Foldable/UnfoldableTensegrtiy Systems by Self-Stress Cancellation, *International Conference for Shell and Spatial Structures*, June 2005, Budapest, Romania.

Smaili A. and Motro R., Folding and Unfolding of Curved Tensegrity Systems by Finite Mechanism Activation, IASS-APCS *International Conference for Shell and Spatial Structures*, Beijing, China.

Smaili A. and Motro R., Circular & Spherical Foldable/UnfoldableTensegrity Systems by Finite Mechanism Activation, Journal of the International Association for shell and Spatial Structures, November 2007.

**Professional Memberships:**

**Name: Salleh Ali Al Hathloul**

**Courses Taught(2008-2010):**

ARCH 700 PhD Thesis; ARCH 692 Special Studies in Arch; ARCH 690 Seminar in Arch;

ARCH 600 Arch Master Thesis; ARCH 470 Arch. Design- 6.

**Education Credentials:**

Ph.D. in Architecture.&Environmental Studies, MIT, 1981.

MAUD, Harvard University,1975

B. Arch, King Saud University,1972

**Teaching Experience:**

2004-present Adjunct (Associate) Prof., Department of Arch .K.S.U.

1984-2004 Part time teaching, Department of Arch. K.S.U.

1989-2002 Visiting Prof.(intermittently), Ecole National d'UrbanismeUniversity du 7 Nov.

Carthage, Tunis.

1981-1984 Assistant Proessor& Chairman, Department of Arch. K.S.U.

**Professional Experience:**

2005-present, CEO, S. AlhathloulDevelopment .Co., Riyadh, K.S.A.

1984-2004 , Deputy Minister for Town Planning, Ministry of Municipal & Rural Affairs, Riyadh.

- Served as a member in the boards of directors for several Government Organizations, i.e. Riyadh Development Authority, Mecca Development Authority, Hail Development Authority and the Royal Commission for Al-Jubail&Yanbu.

-Served as a member of the jury for the Organization of Arab Cities` Award; a member of the 1998 Award Master jury, the AgaKhan Award for Architecture; a jury member in several arch. competitions within KSA during the past 30years.

**Licenses/ Registration:**

Registered architect & planner, Saudi Engineers Society since 2004.

**Selected publications and Recent Research:**

Dr. Saleh Al Hathloul is a Saudi Arabian educator and a critic in the field of Architecture and Urbanism with interests in the epistemology of knowledge, the general issues of structural changes in society, and futurist studies. He is an author of 3 books and more than 50 articles in the field of architecture &Urbanism , well- known among these:

* The Arab Muslim City, Riyadh, AlUmran Society series 4, 2nd Edition,2010(in Arabic).[English edition, Riyadh, Dar alsahan,1996].
* Translation to Arabic :The origin &Evolution of Urban Design;1956-2006, W.Saunders& Alex Krieger(eds), Riyadh AlUmran Society series 1,2010.
* " The National Spatial Strategy of Saudi Arabia", in Al Manakh 2, v.23,(2010), pp.246-247.(Co – authored with M.AbdelRahman).
* Planning Issues in The Middle East, a special issue of Habitat International, v.28, Issue 4, Dec 2004. [ Guest editor with M. EbenSaleh].
* ''Tradition & the Contemporary Urbanism in Arab Muslim cities'', in UMRAN magazine, Riyadh, no 6.,March2004,pp.104-109.
* ''Riyadh , Saudi Arabia'' & ''Saudi Arabia'' in R.S.Sennot(ed),Encyclopaedia of 20th-Century Architecture, New York, Fitzroy Dearborn publishers, Routledge, 2004, pp. 1113-1115 & 1167-1171.
* ''Population Growth & the Future of Urban Dev. In the GCC countries'' & ''Dynamism of Metropolitan Areas:", in Journal of the Gulf & Arabian peninsulaStudies,Kuwait,vol.29, no.109, pp.43-84, and vol .29,no.110, pp.11-43 (Co-authored with M.AbdelRahman).
* Urban Development in Saudi Arabia:, Riyadh, Dar-Sahan, 1996 (Co-edited with N.Edadan).

**Professional Memberships:** Member, ISoCaRP, AlUmranSaudi Association.

**Name: Abdullah S. Al-Hussayen**

**Courses Taught (Four semesters prior to current visit):**

* **ARCH 434 Graduation Project -1 (Project Program)**
* **ARCH 430 Design Studio 7 (Integration of Building Systems)**

**Educational Credentials:**

* **PhD in Architecture, Department of architecture, Edinburgh University, UK**
* **Master of Architecture. Department of architecture, University of Idaho, USA**
* **B.Arch. Department of architecture, King Saud University – KSU (formerly: Riyadh University)**

**Teaching Experience:**

* **Assistant professor, Department of architecture & Building Sciences, College of Architecture & Planning, (KSU) 1996 – to date.**
* **TA, University of Idaho, USA**
* **TA, Department of architecture, KSU (formerly: Riyadh University)**

**Professional Experience:**

* **2009-2011: Professional Consultant, Key member at one of the most important civic strategic project in the world (located in KSA)**
* **2004-Present: Professional Consultant at King Abdullah Institute for Consultancy & Research KSU**
* **2004-2009: Professional Consultant at Vice Presidency for Projects at KSU**
* **2008-2009 Professional Consultant at Al-Rajhi Projects Counsel**
* **Participation in several consultancy tasks for other governmental and private sectors**

**Licenses/Registration:**

**(none)**

**Selected Publications and Recent Research:**

* **Architecture and The Cultural Conflicts (Research paper, In progress)**
* **Translating a book titled: Architecture 101: A Guide to the Design Studio, by Andy Pressman (in progress)**

**Professional Memberships:**

* Al-Umran Saudi Association
* Charitable Association for Engineering Services

**Name: Abdulrahman M Alangari**

**Courses Taught (2008 – 2010):**

ARCH 336: Theory of Architecture

ARCH 352: Theory of Architecture

ARCH 360: Design Studio 4

**Education Credentials:**

B. Arch.: King Saud University, 1987;

Dip. Design Computing: University of Sydney, Australia, 1809;

M. Arch: University of New South Wales, Sydney, Australia, 1991;

PhD. Arch.: University of Edinburg, UK, 1997.

**Teaching Experience:**

Assistant Professor, Kind Saud University, 1997 – now

**Professional Experience:**

1998-2000: Part time advisor to Ministry of Transportation;

2000-2004: Advisor to HE the Minister of Transportation;

2006-2008: CEO: AWNAS: Investment Co. in Infrastructure;

2009-2010: Lead Architect and manager for the design of: Library, Festival Center, Mosque,

Restaurants, recreation Area, and Support Facilities for JOUF UNIVERSITY PROJECT.

2009-2010: President of the Advisory Committee to Review and Develop the Design of the

*"High Speed Railway Terminals in Mecca, Medina, Jeddah, and KAEC".*

**Licenses/Registration:**

Not Applicable

**Selected Publications and recent Research**:

1999: Presenting a Paper on the Development of QasrAlhokm Area, in the National

Conference on: Saudi Arabia in 100 Years;

2004: Presenting a Paper on: Riyadh First Economic Forum title: "Transportation

Strategy in Saudi Arabia".

**Professional memberships:**

Al-Umran Saudi Association.

**Name: Ghazi S. Alabasi**

**Courses Taught (2008-2010):**

ARCH 343 : Building Construction (2)

ARCH 434 : Graduation Project (1)

ARCH 700 : Master. Thesis

**Education Credentials:**

B. Arch., King Saud University, 1985

M. Arch., Illinois Institute of Technology, Chicago, ill, USA, 1989

D. Arch., University of Dundee, Scotland, UK, 1996

**Teaching Experience:**

Assistant Professor, King Saud University, 1996-todate

**Professional Experience:**

**Team Leader for Consultant:**

Designer, College of Pharmacy Building, Al-Jouf University.

Designer, Al-Riyadh main Second Hand Market, Al-Moaykaliah, Riyadh.

Designer, Housing for nurses, King Saud University

Designer, Riyadh Municipality Building computation, Municipality of Riyadh.

Designer, Main Farmer Market, Municipality of Riyadh.

Designer, Snaf Hotel, Makah.

Designer, Main Housing Compound in Riyadh City, Administration Institute.

Designer, Main Housing Compound in Abha City, Agency of Housing.

**Licenses/Registration:**

Main Designer, at Al-Mohana Arch, Consultant, (Part-Time)

**Selected Publications and Recent Research:**

The Influence of Professional fees on the Performance of Architectural

Consulting Firms in Riyadh.

The Role of Disputes in Delaying the Construction, (Saudi Public Works Contract).

The Prediction of Impact of External Facades on the Thermal performance of Buildings in Riyadh.

Cultural and Recreational Facilities in Riyadh over 100 Years.

An Induction Study of Resident's Desire in Riyadh, SA.

**Professional Memberships**:

Al-Umran Saudi Association, (Board member).

Saudi Engineering Committee.(Consultant Council).

**Name**: **Khaled M Aljammaz**

**Courses Taught (2007 – 2011):**

ARCH 130 : Basic Design -1 ARCH 140 : Basic Skills -2

ARCH 211 : Free Hand Drawing ARCH 234 : Building Materials

ARCH 266 : Building Materials ARCH 330 : Design Studio 2

ARCH 333 : Building Construction - 1 ARCH 340 : Design Studio -4

ARCH 350 : Design Studio 3

**Education Credentials:**

B. Arch.: King Saud University, 1998;

G. Certificate: University of Southern California, Los Angeles, USA, 2003;

M. Building Sciences: University of Southern California, Los Angeles, USA, 2003;

PhD. In Architecture and Building Sciences.: University of Newcastle, UK, 2006**.**

**Teaching Experience:**

Assistant Professor, King Saud University, 2007 – now

**Professional Experience:**

1998-1998: Teaching Assist., Technical and Vocational Training Corporation , Riyadh

1998-1999: Teaching Assistant, Technical and Vocational Training Corporation, Riyadh.

2009-2010: Head of The Environmental and Sustainability team in the third Saudi expansion for the Holy Mosque, Mecca,KSA;

2008-2009: The Chairman Board of King Abdullah Bin Abdulaziz Foundation' Chair for Developmental Housing - Architectural Research,

2007-2011: Assistant Professor – Environmental design & Construction Technology King Saud University, college of Architecture and Planning, Department of Architecture and Building Sciences, Riyadh, Kingdom of Saudi Arabia.

**Licenses/Registration**:

Not Applicable

**Selected Publications and Recent Research:**

Aljammaz, Khaled. (2002). Determine The Optimum Block Type For Use in Saudi Arabia. Department of Architecture. Los Angeles, University of Southern California: 119.

Aljammaz, Khaled. et.al (2003)."Elements for Sustainable Lunar Colony in the South Polar Region." Science and Technology Series 108(AAS 03-767): 515-527

Dudek, S and Aljammaz, K (2004).Sustainable Housing Construction Materials in the City of Riyadh, Kingdom of Saudi Arabia.Sustainability of the Housing Projects, Italy, World Congress, University of Trento, International Association for Housing Science.

Aljammaz, K. (2006) An Approach for the assessment of Sustainability of Construction Materials. School of Architecture, Planning and Landscape, Newcastle University

Aljammaz, Khaled M. (2007). An Approach for the assessment of Sustainability in Construction Materials: Case of Riyadh City. Sustainability of the Housing Projects, World Congress on Housing Science, Melbourne Austrlia, International Association for Housing Science.

**Professional Memberships:**

Member of Al UmranSaudi Association

Member Saudi Council of Engineers

Member of Tau Sigma Delta Honor Society in Architecture and Allied Arts

Member of Phi Kappa Phi Honor Society

Member of International Association For Housing Science

Member of the Commission for Social Development in Harmah

Member of the Charitable Society for Engineering Services

Member Saudi Council ofReal Estate

Member of the Board Director for Engineering Services Charity

**Name:** Ezzat Abd El-Moniem Morghany

**Courses Taught (2011-2012):**

* ARCH 250 : Architectural Design-1
* ARCH 255 : Graphic Skills
* ARCH 260 : Architectural Design-2
* ARCH 420 : Architectural Design-6
* ARCH 451 : Art Appreciation
* ARCH 461 : Architectural Criticism

**Education Credentials**:

* **Ph.D.** Architecture, Assiut University, Egypt, 2000
* **M.Sc.** Architecture, Assiut University, Egypt, 1992.
* **B. Sc.** Architectural Engineering, Assiut University, Egypt, 1988.

**Teaching Experience:**

* Associate Professor, Department of Architecture& Building Science, College of Architecture & Planning, King Saud University, Riyadh, Saudi Arabia, (September 2011- Present).
* Associate Professor, Department of Architecture, Faculty of Engineering, Assiut University, Assiut, Egypt, (January 2006-September 2011).
* Visiting Associate Professor, Department of Architecture, College of Science & Engineering, University of Science & Technology, Sana’a, Yemen, (October 2009-Febrauary 2010) & (September 2006-Febrauary 2007).
* Visiting Associate Professor, Department of Architecture, College of Engineering & Petroleum, Hadhramout University of Science & Technology, Mukalla, Yemen, (March 2007-August 2007).
* Assistant Professor, Department of Architecture, Faculty of Engineering, Assiut University, Assiut, Egypt, (December 2000- January 2006).
* Lecturer, Department of Architecture, Faculty of Engineering, Assiut University, Assiut, Egypt, (November 1992- December 2000).
* Demonstrator, Department of Architecture, Faculty of Engineering, Assiut University, Assiut, Egypt, (November 1988- November 1992).

**Professional Experience:**

* Partner and Senior Designer, “**H**ome of **A**rchitecture & **P**lanning”, Assiut, Egypt.
* Designer of: (11) Educational Buildings, (3) Medical Buildings, (9) Administrative Buildings, (9) Sports Project (Swimming Pools, Gym, Sports courts,…etc.), and more than (25) Residential Buildings

**Selected Publication and Research:**

Author & Co-Author of more than 30 research papers on issues concerned with Theory of Architecture, Sustainability, Urban Heritage Conservation.

**Professional Membership:**

Syndicate of Engineering, Architectural Engineering Section, Egypt.

**4.5 Visiting Team Report from Previous Visit**

#### I. Summary of Team Findings

**1. Team Comments**

This is a program that is supported strongly by the faculty. Their Dean is trained as an architect and is well positioned for the job. He has been very successful in his endeavor to obtain support for this program from the university. Through the dean's efforts, the College has been able to win several national design competitions that have brought them acclaim from many at the universities top leadership. Their success has even been acknowledged by the King of Saudi Arabia for winning one of his special projects, the redesign of the holiest mosque in the world, the Haram Mosque. This popular facility is currently being expanded from its original 7th-century form to accommodate up to 820,000 worshippers in air-conditioned comfort.

The student body is enthusiastic in its support of the program. The students feel they are being trained adequately for their future and understand what additional training in the profession is required of them before they are allowed to practice architecture as licensed professionals.

The university is appreciative of this college and what their design skills bring to the future of this university and the country. They look forward to the continued successes of this program and provide the support needed to bring this college in the level of architectural programs throughout the NAAB purview.

**2. Progress Since the Previous Site Visit**

Not applicable

**3. Conditions/Criteria Well Met**

1. The current student/teacher ratio is an extremely good ratio of 1/10.

**4. Conditions/Criteria Not Substantially Equivalent**

11. Administrative Structure

13.7 Collaborative Skills

13.13 Accessibility

13.19 Life Safety

13.24 Construction Cost Control

**5. Causes of Concern**

**II. Compliance with the Conditions for Accreditation for Substantial Equivalency**

**1. Program Response to the NAAB Perspectives**

*The professional degree program must respond to the interests of the collateral organizations or their local equivalents that make up the NAAB as set forth by the current edition of the NAAB Conditions for Substantial Equivalency. Each school is expected to address these interests consistent with its scholastic identity and mission. For determination of Substantial Equivalency, the relevant organizations will be unique to the institution.*

**1.1 Architecture Education and the Academic Context**

*The professional degree program must demonstrate that it both benefits from and contributes to its institution. In the APR, the degree program may explain its academic and professional standards for faculty and students; its interaction with other programs in the institution; the contribution of the students, faculty, and administrators to the governance and the intellectual and social lives of the institution; and the contribution of the institution to the degree program in terms of intellectual resources and personnel.*

SE Not SE

[X] [ ]

**2011 Team Response:** Over the last several years, a number of faculty members have served in national and regional positions that have strengthened the university’s standing in the country. The college has officially been recognized as one of the top three colleges within the university, and this has positioned it very well within the academic context to grow and prosper. The college has been involved in research for years and has established a relatively new office, Research Center and Information, which is a part of the university-wide system for research that benefits both faculty and students.

**1.2 Architecture Education and Students**

*The professional degree program must demonstrate that it provides support and encouragement for students to assume leadership roles in school and later in the profession and that it provides an environment that embraces cultural differences. Given the program’s mission, the APR may explain how students participate in setting their individual and collective learning agendas; how they are encouraged to cooperate with, assist, share decision making with, and respect students who may be different from themselves; their access to the information needed to shape their future; their exposure to the national and international context of practice and the work of the allied design disciplines; and how students’ diversity, distinctiveness, self-worth, and dignity are nurtured.*

SE Not SE

[X] [ ]

**2011 Team Response:** The students receive encouragement and support in their future roles as leaders throughout the program, starting with presentations of their work at every juncture in their native Arabic as well as English for a number of non-Arabic speaking faculty from many different countries. These abilities are expected to continue on in the profession after graduation.

**1.3 Architecture Education and Registration**

*The professional degree program must demonstrate that it provides students with a sound preparation for the transition to licensure or registration. The school may choose to explain in the APR the degree program’s relationship with the process of becoming an architect in the country where the degree is offered, the exposure of students to possible internship requirements, the students’ understanding of their responsibility for professional conduct, and the proportion of graduates who have sought and achieved licensure or registration since the previous visit.*

SE Not SE

[X] [ ]

**2011 Team Response:** Currently, Saudi Arabia has no compulsory licensing examination or legal registration required to practice architecture in the country. The system relies on the colleges of architecture to produce qualified architects. Architecture graduates in this country are required to work for the government or for engineers for a period of four (4) years before obtaining the required documentation from engineers that is needed to become practicing architects. This is discussed often in classes, and the students understand the requirements of qualification. The College has developed a successful process to place its students in professional positions through annual job fairs and other opportunities presented to the College by professional organizations and government agencies.

**1.4** **Architecture Education and the Profession**

*The professional degree program must demonstrate how it prepares students to practice and assume new roles and responsibilities within a context of increasing cultural diversity, changing client and regulatory demands, and an expanding knowledge base.*

SE Not SE

[X] [ ]

**2011 Team Response:** The program demonstrates this requirement in its preparation of students for travel to study in foreign countries. The students also learn this though their studies in professional practice. The changing client, regulatory demands, and an expanded knowledge base are well professed in this program. The students are familiar with cultural diversity as much as possible within their culture. As do other students around the world, they, too, push the limits of cultural diversity. Their world has an ever-expanding knowledge base that is seen in the foreign-designed architecture that is transforming their city. The capital is exploding with construction. Their country is vibrant and growing faster than most other counties today. The students have the best of materials and equipment that is seen in any other college of architecture today.

**1.5** **Architecture Education and Society**

*The program must demonstrate that it equips students with an informed understanding of social and environmental problems and develops their capacity to help address these problems with sound architecture and urban design decisions.*

SE Not SE

[X] [ ]

**2011 Team Response:** The work displayed demonstrates that the college is preparing its students to fulfill the requirements of this section of this report. This is also evident in the College Vision and Mission statement as well as their long history of working with the capital city of Riyadh and surrounding communities in the manner of a living laboratory that exposes students to the unique culture and society of the Kingdom of Saudi Arabia.

**2. Program Self-Assessment Procedures**

*The professional degree program must describe its self-assessment process specifically with regard to ongoing evaluation of the program’s mission statement and how it relates to the NAAB Perspectives. The assessment procedures must include solicitation of the faculty’s, students’, and graduates’ views on the program’s curriculum and learning.*

SE Not SE

[X] [ ]

**2011 Team Response:** The College developed an initial four surveys assessing their program objectives. From that, a structure within three levels was used to develop program outcome; course, curriculum and program. It was recognized that all three levels could not be reached consistently, but it was felt that this effort would lead to a more effective assessment of both direct and indirect tools. Exits surveys were developed for and are provided to graduating seniors. This information gathered has consistently been used to improve their program. An Alumni Day is held each year and a survey is circulated at the end of the day. In team meetings with recent graduates and seasoned professionals, it was clear that they all felt they were well prepared for entry into the work environment. The college also studies, analyzes, and investigates the market required for graduates. This helps in placement of graduates. Even more important is the required sixty (60) days of training of students in private offices or with public agencies. The subsequent surveys of these activities directly help the college verify that students have gained the education required to fulfill the satisfactory training needed to successfully enter the workforce.

**3. Public Information**

*The professional degree program must provide clear, complete, and accurate information to the public by including its catalog and promotional literature language, which explains the parameters of a professional degree program and the role and purpose of the substantial equivalency designation.*

SE Not SE

[ ] [ ]

This condition is not applicable on a second visit before establishing substantial equivalency.

**4. Social Equity**

*The professional degree program must provide all faculty, students, and staff—irrespective of race, ethnicity, creed, national origin, gender, age, physical ability, or sexual orientation—with equitable access to a caring and supportive educational environment to learn, teach, and work within the cultural context of the country/region in which the institution is located. The program must have a clear policy on these matters that is communicated to current and prospective faculty, students, and staff and that is reflected in the distribution of the program’s human, physical, and financial resources. Faculty, staff, and students must also have equitable opportunities to participate in program governance.*

SE Not SE

[ ] [X]

**2011 Team Response:** Within the cultural context of Saudi Arabia,the College does not adhere to all aspects of social equity. They do not accept females in the study of architecture or on their staff. There was evidence that the College has a history of hiring male faculty from many different countries. Those from foreign countries report that they do not receive any discrimination in their salaries.

**5. Studio Culture**

*The professional degree program is expected to demonstrate a positive and respectful learning environment through the encouragement of the fundamental values of optimism, respect, sharing, engagement, and innovation between and among the members of its faculty, student body, administration, and staff. The school should encourage students and faculty to appreciate these values as guiding principles of professional conduct throughout their careers.*

SE Not SE

[X] [ ]

**2011 Team Response:** The emphasis on studio culture is evident throughout the program. There is a strong respectful learning environment with the fundamental values of optimism, respect, sharing engagement, and innovation among all in every activity. The culture requires each student get the attention others receive, and students and faculty appreciate the values as guiding principles of professional conduct. The College has undertaken a number of extracurricular activities including weekly awareness lectures, social gatherings in the form of concerts, field visits, and other sporting and recreational activities that strengthen their studio culture.

**6. Human Resources**

*The professional degree program must demonstrate that it provides adequate human resources for a professional degree program in architecture, including a sufficient faculty complement, an administrative head with enough time for effective administration, and adequate administrative, technical, and faculty support staff. Student enrollment in and scheduling of design studios must ensure adequate time for an effective tutorial exchange between the teacher and the student. The total teaching load should allow faculty members adequate time to pursue research, scholarship, and practice to enhance their professional development.*

SE Not SE

[X] [ ]

**2011 Team Response:** This mature program is sufficiently supported by the university and is staffed adequately to provide the best degree program possible at this time. The Dean has the time and authority to guide the program. He skillfully coordinates the necessary time for university, community and national meetings as well as the political activities required of his position. The Chairman actively manages the day-to-day activities of faculty and students. The faculty/student ratio of 1/10 is very good and is even better when part-time teaching staff and teaching assistants are taken to account. Virtually all faculty hold Ph.D. or doctorate degrees from North American and European universities. All of them were conversant in English. The faculty’s teaching load allows them time for research, which they are encouraged to do.

**7. Human Resource Development**

*The professional degree program must have a clear policy outlining both individual and collective opportunities for faculty and student growth inside and outside the program.*

SE Not SE

[X] [ ]

**2011 Team Response:** The university’s published policies and procedures cover all aspects of the institution that apply to students, staff, and faculty.

**8. Physical Resources**

*The professional degree program must provide the physical resources appropriate for a professional degree program in architecture, including design studio space for the exclusive use of each student in a studio class; lecture and seminar space to accommodate both didactic and interactive learning; office space for the exclusive use of each full-time faculty member; and related instructional support space.*

SE Not SE

[X] [ ]

**2011 Team Response:** There is substantial evidence that this College has been provided the physical resources appropriate for a professional degree program. The three floors of space are very adequate for teaching and future growth. The College feels that it is the best-equipped school in the county. They have invested in the latest state-of-the-art equipment and facilities, The University Rector, in a meeting with the team, indicated that this program was one of the best three colleges in the university. Because of this success, the College enjoys an excellent relationship with and support from the Rector.

**9. Information Resources**

*Readily accessible library and visual resource collections are essential for architectural study, teaching, and research. Library collections must include at least 5,000 different cataloged titles, with an appropriate mix of Library of Congress NA, Dewey 720–29 or the local/national equivalent, and other related call numbers to serve the needs of individual programs. There must be adequate visual resources as well. Access to other architectural collections may supplement, but not substitute for, adequate resources at the home institution or main campus. In addition to developing and managing collections, architectural librarians and visual resources professionals should provide information services that promote the research skills and critical thinking necessary for professional practice and lifelong learning.*

*The architectural librarian and, if appropriate, the professional in charge of visual resources collections must prepare a self-assessment demonstrating the adequacy of the library.*

SE Not SE

[X] [ ]

This College is a mature program with a long history. The architecture library was begun in 1985 as a reading room that was populated with books by faculty and some donated periodicals. Its holdings have grown to a collection of 6,000 books in both Arabic and English. Many subscriptions are evident and government reports were significant. The library is now documenting its old 8-track tapes of previous lectures into digital format. Their collection of city maps from different communities around the country is extensive and stored in flat files for easy access. They have developed a collection of student final projects that is now being used by students to study previous work. In the team’s review of the university main library it was observed that it too has a collection of architecture books. Because of the distance from the architecture building, the program is encouraged to develop a plan to address this matter.

**10. Financial Resources**

*A professional degree program must have access to sufficient institutional support and financial resources to meet its needs and be comparable in scope to those available to meet the needs of other professional programs within the institution.*

SE Not SE

[X] [ ]

**2011 Team Response:** The College is well financed and supported by the administration. Along with other professional colleges in the university, it receives all the financial support needed to meet the requirements of accreditation. The Saudi King Abdullah bin Abdul Aziz’s desire is for King Saud University to be recognized as one of the best institutions of higher learning in the world. Because of the College’s recent wins of two national architectural competitions, it has gained the respect and full support of the king and the university administration. Their support is equal to other departments within the college. The faculty recently received salary raises, and all were very thankful for this.

**11. Administrative Structure**

*The professional degree program must be, or be part of, an institution accredited/validated/recognized by a regional accrediting agency for higher education or otherwise by the federal authority on higher and post-secondary education. The degree program must have a measure of autonomy that is both comparable to that afforded other professional degree programs in the institution and sufficient to ensure conformance with the conditions for substantial equivalency.*

SE Not SE

[ ] [X]

**2011 Team Response:** Because this is an overseas institution seeking substantial equivalency, this is not applicable at this time.

**12. Professional Degrees and Curriculum**

*For substantial equivalency, the NAAB requires professional degree programs in architecture to demonstrate that the program is comparable in all significant aspects to a program offered by a U.S. institution. This includes a curricular requirement that substantial equivalency degree programs must include general studies, professional studies, and electives.*

*Curricular requirements are defined as follows:*

* ***General Studies.*** *A professional degree program must include general studies in the arts, humanities, and sciences, either as an admission requirement or as part of the curriculum. It must ensure that students have the prerequisite general studies to undertake professional studies. The curriculum leading to the architecture degree must include at least 45 credit hours (45 credits is comparable to 1.5 years of study), or the quarter-hour equivalent, that must be outside architectural studies either as general studies or as electives with other than architectural content.*

*This requirement must be met at the university or tertiary school level. Post-secondary education cannot be used to meet this requirement. At least 20% of the credits in the professional architecture degree must be outside architectural studies either as general studies or as electives with other than architectural content.*

* ***Professional Studies.*** *The core of a professional degree program consists of the required courses that satisfy the NAAB Student Performance Criteria. The professional degree program has the discretion to require additional courses including electives to address its mission or institutional context.*
* ***Electives.*** *A professional degree program must allow students to pursue their special interests. The curriculum must be flexible enough to allow students to complete minors or develop areas of concentration, inside or outside the program.*

Met Not SE

[X] [ ]

**13. Student Performance Criteria**

*The professional degree program must ensure that each graduate possesses the knowledge and skills defined by the criteria set out below. The knowledge and skills are the minimum for meeting the demands of an internship leading to registration for practice.*

**13.1 Speaking and Writing Skills**

*Ability to* read, write, listen, and speak effectively (in the language of the country in which the program is located)

SE Not SE

[X] [ ]

**2011 Team Assessment:** In the visiting team’s interactions with students in formal meetings and studio reviews and in informal settings, it was apparent that most students were very capable in verbal communication in English.

Most of the course dossiers presented for team review had either no student outcomes or outcomes only in Arabic. We were unable to fully assess their English writing skills. Upon request, the visiting team was supplied with students’ outcomes in ENGL 140 and ENGL 150 as well as the Learning, Thinking & Research course (CI 140) with ample evidence of ability for communication in writing.

**13.2 Critical Thinking Skills**

*Ability to* raise clear and precise questions, use abstract ideas to interpret information, consider diverse points of view, reach well-reasoned conclusions, and test them against relevant criteria and standards

SE Not SE

[X] [ ]

**2011 Team Assessment:** The SPC Matrix shows that this criterion is met through communication (CI 140) and math (MATH 140) courses in the preparatory (first) year as well as in the third year statistics (STAT 324) course offered outside the college and in the computer skills course in the department. The visiting team has witnessed evidence of relatively effective critical thinking skills in the design studio outcomes in the curriculum.

**13.3 Graphic Skills**

*Ability to* use appropriate representational media, including freehand drawing and computer technology, to convey essential formal elements at each stage of the programming and design process

SE Not SE

[X] [ ]

**2011 Team Assessment:** This program requires that students take ARCH 254 Freehand Drawing and ARCH 255 Graphic Skills in their first year. They are not allowed to use computers until after their fourth semester. Even then they develop their studio work in freehand drawings and continue to refine the work using computer software programs. In these as well as in design studio outcomes, the team has been able to discern that students possessed a prudent level of ability to formally convey their design ideas graphically.

**13.4 Research Skills**

*Ability to* gather, assess, record, and apply relevant information in architectural course work

SE Not SE

[X] [ ]

**2011 Team Assessment:** The visiting team has noted that there is ample evidence in course and studio outcomes to conclude that the curriculum is capable of initiating, nurturing, and developing abilities in students to gather, assess, record, and apply relevant information in architectural course work.

**13.5 Formal Ordering Skills**

*Understanding of* the fundamentals of visual perception and the principles and systems of order that inform two- and three-dimensional design, architectural composition, and urban design

SE Not SE

[X] [ ]

**2011 Team Assessment:** Student work produced in the architecture design studios (ARCH 250 and ARCH 260) in the second year and the urban design course (ARCH 353) and studio (ARCH 360) in the third year of the curriculum demonstrated that students possessed prudent understanding of the fundamentals of visual perception and the principles and systems of order that inform design. The application of these skills in the advanced years was clearly apparent.

**13.6 Fundamental Design Skills**

*Ability to* use basic architectural principles in the design of buildings, interior spaces, and sites

SE Not SE

[X] [ ]

**2011 Team Assessment:** The visiting team noted that students possessed an acquired ability to use basic architectural principles in the design of buildings, interior spaces, and sites in architecture design studios (particularly in ARCH 250 and ARCH 260) and in computer skills (ARCH 355), Landscape (ARCH 269), and urban design (ARCH 360) courses.

**13.7 Collaborative Skills**

*Ability to* recognize the varied talent found in interdisciplinary design project teams in professional practice and work in collaboration with other students as members of a design team

SE Not SE

[ ] [X]

**2011 Team Assessment:** The visiting team was not able to find any evidence of interdisciplinary collaboration in the course offerings and thus in the student work presented. There were also no student outcomes from collaborative team work within the curriculum.

**13.8 National and Regional Traditions**

*Understanding of* national traditions and the local regional heritage in architecture, landscape design, and urban design, including the vernacular tradition

SE Not SE

[X] [ ]

**2011 Team Assessment:** The visiting team noted that many history and theory courses (ARCH 268 and ARCH 368), technical courses (ARCH 350 and ARCH 361), and architecture and urban design studios (ARCH 350 and ARCH 360) conveyed a deep understanding of national traditions and the local regional heritage and vernacular tradition. Furthermore the visiting team believes that the newly established Prince Sultan Bin Salman Chair for Architectural Heritage, as a research realm in the College, will further the work evident in this realm. However the visiting team noted that the influence of this understanding was relatively weakly demonstrated in the advanced design studios.

**13.9 Historical Traditions**

*Understanding of* the full range of canons and traditions in Western and non-Western architecture, landscape, and urban design (both ancient and modern), as well as the climatic, technological, socioeconomic, and other cultural factors that have shaped and sustained them

SE Not SE

[X] [ ]

**2011 Team Assessment:** The visiting team noted that the level of understanding of Western and non-Western architecture, landscape, and urban design traditions as developed in the history and theory courses (ARCH 268 and ARCH 368) was relatively weak but present compared with the findings for SPC 13.8 National and Regional Traditions.

**13.10 Use of Precedents**

*Ability to* incorporate relevant precedents into architecture and urban design projects

SE Not SE

[X] [ ]

**2011 Team Assessment:** Many architecture and urban design projects that came out of the second and third year studios as well as student work produced in the history and theory courses at these years of the curriculum had evidence that students possessed the ability to incorporate relevant precedents into architecture and urban design projects. However, this ability was not thoroughly evident in the more advanced studios.

**13.11 Human Behavior**

*Understanding of* the theories and methods of inquiry that seek to clarify the relationship between human behavior and the physical environment

SE Not SE

[X] [ ]

**2011 Team Assessment:** In particular, the team noted that the content of and student outcomes from the “Man and Built Environment” course (ARCH 361) was effective in demonstrating a prudent understanding of the relationship between human behavior and the physical environment by the students. This area is also effectively covered in several other courses and design studios such as ARCH 269 and ARCH 360.

**13.12 Human Diversity**

*Understanding of* the diverse needs, values, behavioral norms, physical abilities, and social and spatial patterns that characterize different cultures and individuals and the implication of this diversity for the societal roles and responsibilities of architects

SE Not SE

[X] [ ]

**2011 Team Assessment:** It is clear to the visiting team that the students in this program are well aware of different cultures, and their diverse needs, values, behavioral norms, physical qualities, as well as social and spatial patterns are different from their own. In advanced years of the curriculum many students attend architecture studies abroad in countries such as France, Italy, Germany, Turkey, and Malaysia and appreciate this diversity.

**13.13 Accessibility**

*Ability to* design both site and building to accommodate individuals with varying physical and cognitive abilities

SE Not SE

[ ] [X]

**2011 Team Assessment:** The visiting team was unable to find any evidence in course and studio outcomes that showed that students in the program were aware of the accessibility requirements found and enforced in Western societies, and thus none of these norms and requirements were incorporated in their work. In meetings with local practitioners, the visiting team learned that the country has no legislation similar to the ADA in the U.S., save for a limited number of caveats currently used in the issuance of building permits.

**13.14 Sustainable Design**

*Understanding of* the principles of sustainability in making architecture and urban design decisions that conserve natural and built resources, including culturally important buildings and sites, and in the creation of healthful buildings and communities

SE Not SE

[X] [ ]

**2011 Team Assessment:** There is a course and a design studio in the third year of the curriculum (ARCH 351 and ARCH 350, respectively) that incorporates sustainable design in content and requirements. In upper level studios principles of sustainable design are central to teaching and learning.

**13.15 Program Preparation**

*Ability to* prepare a comprehensive program for an architectural project, including assessment of client and user needs, a critical review of appropriate precedents, an inventory of space and equipment requirements, an analysis of site conditions, a review of the relevant laws and standards and assessment of their implication for the project, and a definition of site selection and design assessment criteria

SE Not SE

[X] [ ]

**2011 Team Assessment:** It is not until the latter part of the curriculum (second semester of the third year) that program preparation is formally introduced in design studio (ARCH 360). However, there was ample evidence of precedent studies in courses and design studios up to this stage. In upper level studios, and in particular the Graduation Project studios, program preparation is a significant undertaking.

**13.16 Site Conditions**

*Ability to* respond to natural and built site characteristics in the development of a program and the design of a project

SE Not SE

[X] [ ]

**2011 Team Assessment:** Site conditions are particularly addressed in three specific courses (ARCH 269, SE 251 and ARCH 350) and course files for each have included student outcomes that demonstrated students’ ability to respond to natural and built site characteristics in architectural design.

**13.17 Structural Systems**

*Understanding of* principles of structural behavior in withstanding gravity and lateral forces and the evolution, range, and appropriate application of contemporary structural systems

SE Not SE

[X] [ ]

**2011 Team Assessment:** The curriculum includes a set of structures courses, mostly in the latter part of the curriculum that addresses this SPC. The student outcomes the visiting team was exposed to contained evidence that the students had developed a conceptual and intuitive sense of these systems.

**13.18 Environmental Systems**

*Understanding of* the basic principles and appropriate application and performance of environmental systems, including acoustical, lighting, and climate modification systems; energy use; all integrated with the building envelope

SE Not SE

[X] [ ]

**2011 Team Assessment:** The third architecture design studio (ARCH 350) and concurrently offered Environmental Control course (ARCH 351) deal with environmental systems and require demonstration of an understanding in this area. Studio outcomes and course files have ample evidence to attest to this understanding.

**13.19 Life-Safety**

*Understanding of* the basic principles of life-safety systems with an emphasis on egress

SE Not SE

[ ] [X]

**2011 Team Assessment:** This SPC is not addressed until the second semester of the fourth year in the curriculum, but many studio outcomes did not demonstrate that students had the understanding of the critical nature of this SPC. The program is encouraged to find curricular means with which Life Safety can be introduced earlier in the program, because the visiting team noted deficiencies in students’ outcomes regarding this SPC, particularly in door swings and egress.

**.**

**13.20 Building Envelope Systems**

*Understanding of* the basic principles and appropriate application and performance of building envelope materials and assemblies

SE Not SE

[X] [ ]

**2011 Team Assessment:** Similar to SPC 13.19 Life-Safety, this criterion is not addressed until the second semester of the fourth year in the curriculum, except at introductory level in Environmental Control and Building Construction1 courses (ARCH 351 and ARCH 357 respectively) as well as in the third year design studio (ARCH 350). However, student outcomes of the studios in the advanced years demonstrated that the understanding of building envelope systems was effective in their project proposals.

**13.21 Building Service Systems**

*Understanding of* the basic principles and appropriate application and performance of plumbing, electrical, vertical transportation, communication, security, and fire protection systems

SE Not SE

[X] [ ]

**2011 Team Assessment:** This SPC is not addressed until the second semester of the fourth year in the curriculum, except at introductory level in Environmental Control and Building Construction1 course (ARCH 351 and ARCH 357, respectively). However, studio outcomes of the advanced studios demonstrated that the students possessed this understanding and were applying it in their proposals.

**13.22 Building Systems Integration**

*Ability to* assess, select, and conceptually integrate structural systems; building envelope systems; environmental systems; life-safety systems; and building service systems into building design

SE Not SE

[X] [ ]

**2011 Team Assessment:** This SPC is addressed in the second semester of the fourth year in the curriculum, except at introductory level in Environmental Control and Building Construction1 course (ARCH 351 and ARCH 357, respectively). Student outcomes from advanced studios demonstrated that the students were able to use the ability developed in the earlier courses effectively.

**13.23 Building Materials and Assemblies**

*Understanding of* the basic principles and appropriate application and performance of construction materials, products, components, and assemblies, including their environmental impact and reuse

SE Not SE

[X] [ ]

**2011 Team Assessment:** This SPC is addressed in the second semester of the fourth year in the curriculum, but at an introductory level in Building Materials and Building Construction1 course (ARCH 266 and ARCH 357, respectively). However, the visiting team noted that the student outcomes from advanced studios demonstrated a prudent understanding of this criterion.

**13.24 Construction Cost Control**

*Understanding of* the fundamentals of building cost, life-cycle cost, and construction estimating

SE Not SE

[ ] [X]

**2011 Team Assessment:** This SPC is not addressed until the second semester of the fourth year in the curriculum, except peripherally in the Building Materials Building Construction1 course (ARCH 357). However the visiting team was unable to find evidence that there is any (or some) understanding of this criterion in any of the studio outcomes.

**13.25 Technical Documentation**

*Ability to* make technically precise drawings and write outline specifications for a proposed design

SE Not SE

[X] [ ]

**2011 Team Assessment:** The visiting team noted that this SPC was satisfied in design studios in a manner commensurate with the level in the curriculum..

**13.26 Client Role in Architecture**

*Understanding of* the responsibility of the architect to elicit, to understand, and to resolve the needs of the client, owner, and user

SE Not SE

[X] [ ]

**2011 Team Assessment:** The visiting team noted that the studio outcomes demonstrated understanding of the client role. In particular the Urban Design studio (ARCH 350) outcomes were found to be exemplary.

**13.27 Comprehensive Design**

*Ability to* produce a comprehensive architectural project based on a building program and site that includes development of programmed spaces demonstrating an understanding of structural and environmental systems, building envelope systems, life-safety provisions, wall sections, building assemblies, and the principles of sustainability

SE Not SE

[X] [ ]

**2011 Team Assessment:** Student outcomes from ARCH 434 Graduation Project 1 and ARCH 491 Graduation Project 2 in the fifth year of the curriculum demonstrated students’ ability to produce a comprehensive architectural project.

**13.28 Architect’s Administrative Roles**

*Understanding of* obtaining commissions and negotiating contracts, managing personnel and selecting consultants, recommending project delivery methods, and forms of service contracts

SE Not SE

[X] [ ]

**2011 Team Assessment:** This SPC is addressed in a pair of courses (ARCH 425 Project Management and ARCH 491 Professional Practice) in the last year of the curriculum. The visiting team noted that the student outcomes from these courses demonstrated a prudent understanding of this criterion.

**13.29 Professional Registration**

*Understanding of* the role of internship in obtaining licensure and registration and the mutual rights and responsibilities of architects and clients

SE Not SE

[X] [ ]

**2011 Team Assessment:** Saudi Arabia being outside NCARB jurisdiction, this SPC may not be relevant for substantial equivalency of the degree granted by this institution. But the team felt like the program does accomplish this goal within the standards for professional practice in Saudi Arabia. Please refer to the team’s comments explaining the professional requirements in section II. 1. 1.3.

**13.30 Architectural Practice**

*Understanding of* the basic principles and legal aspects of practice within the context of the country in which graduates may practice architecture. This includes organization, financial management, business planning, time and project management, risk mitigation, and mediation and arbitration; as well as an understanding of trends that affect practice such as globalization, outsourcing, project delivery, expanding practice settings, diversity, and others

SE Not SE

[X] [ ]

**2011 Team Assessment:** Similar to SPC 13.28 Architect’s Administrative Roles, this SPC is addressed in a pair of courses (ARCH 425 Project Management and ARCH 491 Professional Practice) in the last year of the curriculum. The visiting team noted that the student outcomes from these courses demonstrated a prudent understanding of this criterion.

**13.31 Leadership**

*Understanding of* the need for architects to provide leadership in the building design and construction process and on issues of growth, development, and aesthetics in their communities

SE Not SE

[X] [ ]

**2011 Team Assessment:** The visiting team noted that students demonstrated a prudent understanding of the architect’s role in providing design and construction leadership at levels commensurate with the year they were in the program.

**13.32 Legal Responsibilities**

*Understanding of* the architect’s responsibility as determined by local registration law, building codes and regulations, professional service contracts, zoning and subdivision ordinances, environmental regulation, historic preservation laws, and accessibility laws

SE Not SE

[X] [ ]

**2011 Team Assessment:** This SPC is particularly addressed in ARCH 357 Building legislation course, and outcomes in this course demonstrated that students had an understanding of architects’ legal responsibilities

**13.33 Ethics and Professional Judgment**

*Understanding of* ethical issues involved in the formation of professional judgment in architectural design and practice

SE Not SE

[X] [ ]

**2011 Team Assessment:** It is the visiting team’s judgment that the overall curriculum facilitates the student to develop a prudent understanding of the ethical issues involved architectural design and practice.

**4.6 Annual Reports**

**4.7 Catalog**