Number & Title of Course:
ENGL 101, General English, 7 credits

Course Description:
The featuring aspect of the PY academic year English language program is fittingly designed to answer the academic needs of students of the Science and Engineering Tracks. This course (General English) is an integrated English course intended to increase academic and general competence in listening, speaking, reading and writing. During this Academic Year and with 20 contact hours a week in Semester 1 and 10 in Semester 2, students will have attained to a position where they can understandingly communicate with native speakers and express themselves without hesitation.

Course Goals & Objectives:
To develop the academic and general competence of the students in the four language skills (listening, speaking, reading and writing).

Student Performance Criterion addressed:
Not Applicable.

Topical Outline:

Writing Portfolio assignments-I to 5	10 %
Test 1	10 %
Test 2	15 %
E-learning: Online Quizzes and assignments, CPA	15 %
Final Exam	50 %

Prerequisites:
Admission

Textbooks/Learning Resources:
Q skills for Success Book 1 to 4 (WRLS). List of references referred to in the series main books and handbooks and accompanying CDs.
The English Language Department implements two learning management systems, namely:

- Digital Learning Platform for Oxford University Press
- www.Oxfordlearn.com
- iTools for Q: Skills for Success (A digital reference for the book)
- Randall's ESL Cyber Listening Lab http://www.esl-lab.com/

Offered (Semester and year):
Fall only; annually

Faculty assigned:
Instructors of English Language Department

Number & Title of Course:
ENGL 102, English for Specific Purposes, 3 credits

Course Description:
This course is designed to be taken in the second semester of the preparatory year. Engl-102 is track specific. The course material addresses the needs of students in science track. The department uses in-house material to teach ESP: English for Engineering Professions. In addition to the ESP books, an Essential Academic Writing (EAP) book has been integrated into ESP program to provide students with ample training for academic work in their undergraduate program and beyond.

Course Goals & Objectives:
Help students to prepare for their specialization fields: Engineering & Architecture.

Student Performance Criterion addressed:
Not Applicable

Topical Outline:

Participation	5 %
Test 1	10 %
Test 2	15 %
E-learning	5 %
Writing Portfolio	10 %
Academic presentation	5 %
Final Exam	50 %

Prerequisites:
ENGL 101, General English

Textbooks/Learning Resources:
Department of English. (2018). English For Engineering Profession (Student's Book). Deanship of Preparatory Year and Supporting Studies: Imam Abdulrahman bin Faisal University.
Department of English. (2019). Writing Essentials: English For Academic Purposes. Deanship of Preparatory Year and Supporting Studies: Imam Abdulrahman bin Faisal University.

Offered (Semester and year):
Spring only; annually

Faculty assigned:
Instructors of English Language Department

Number & Title of Course:
MATH 111, Mathematics I, 3 credits

Course Description:
The Math-11 course reinforces basic mathematics skills which are used in calculus and their relevance to everyday applications. These skills encompass the ability to solve mathematical problems, analyze and interpret data. An emphasis will be given to the understanding the statement of the problems and the mathematical terminology. The course primarily aims at the development of critical thinking among the students through the mathematical concept studied at the high school. The topics includes Fundamentals of Algebra, Equation and Inequalities, Complex Numbers, Graphs and Functions, Polynomial and Rational Functions.

Course Goals & Objectives:
The purpose of this course is to develop students' comprehension for the Mathematical vocabulary in English, improve their computational skills and writing ability with logical steps, and prepare them for calculus.

Student Performance Criterion addressed:
Not Applicable

Topical Outline:

Test 1	20 %
Test 2	20 %
Quiz 1	5 %
Quiz 2	5 %
Homework (Online)	10 %
Final Exam	40 %

Prerequisites:
Admission

Textbooks/Learning Resources:
Mathematics I for Engineering Track, In-house TextBook, Math-111 Teachers (Second Edition, 2018)

Offered (Semester and year):
Fall only; annually

Faculty assigned:
Instructors of Basic Science Department

Number & Title of Course:
MATH 112, Mathematics II, 3 credits

Course Description:
The Math-112 course reinforces basic mathematics skills which are used in calculus and their relevance to everyday applications. These skills encompass the ability to solve mathematical problems, analyze and interpret data.
An emphasis will be given to the understanding the statement of the problems and the mathematical terminology. The course primarily aims at the development of critical thinking among the students through the mathematical concept studied at the high school. The topics include the study of the fundamental properties of trigonometric functions some topics in analytic geometry, Matrices systems of equations, Exponential and Logarithmic Functions and Introduction to Calculus.

Course Goals & Objectives:
The purpose of this course is to develop students' comprehension for the Mathematical vocabulary in English, improve their computational skills and writing ability with logical steps, and prepare them for ungraduated courses.

Student Performance Criterion addressed:
Not Applicable

Topical Outline:

Test 1	15 %
Test 2	15 %
Quiz 1	5 %
Quiz 2	5 %
Quiz 3	5 %
Homework (Online)	10 %
Participation	5 %
Final Exam	40 %

Prerequisites:
MATH 111, Mathematics I

Textbooks/Learning Resources:
Mathematics II for Engineering Track, In-house TextBook, Math-112 Teachers (Second Edition, 2018)

Offered (Semester and year):
Spring only; annually

Faculty assigned:
Instructors of Basic Science Department

Number & Title of Course:
ARCH 121, Design Studio I, 3 credits

Course Description:
The course introduces the fundamentals of engineering drawing and basics of design to students of the engineering track. Throughout the course, students will acquire a number of drawing and design skills and will be able to practice and make different types of engineering drawings, such as: plans, sections and elevations. In addition, students will be introduced to using and applying Drawing Scale. The course objectives are fulfilled through hands-on practical application of a set of assignments inside the studio, and are supported by a number of lectures and workshops throughout the semester, which are all designed to educate architectural I engineering drawing and vocabulary through simplified models.

Course Goals & Objectives:

- Understanding fundamentals of drafting and design.
- Developing the student's skills for graphic communication as a tool for developing and expressing design ideas, using a variety of techniques.
- Introducing students to two dimensional orthographic drawings.
- Introducing students to design vocabulary and ordering system skills

Student Performance Criterion addressed:
Not Applicable

Topical Outline:

Assignments	50%
Mid-Term Exam	10%
Student's Performance	10%
Final Exam	30%

Prerequisites:
Admission

Textbooks/Learning Resources:
Farghaly, Vasser Ahmed. Fundamentals of Architecture Drawing & Design, Deanship of Preparatory Year and Supporting Studies, University Of Dammam. 2013.
Ching Francis O.K., Architecture: Form, Space and Order, 4th Edition, John Wiley & Sons Inc., New Jersey,2014.
Ching Francis O.K., Design Drawing, 2nd Edition, John Wiley & Sons Inc., New Jersey,2010.
Dong, Wei. Colour Rendering: A Guide for Interior Designers and Architects Concept, Mcgraw-Hill, 1997.

Offered (Semester and year):
Fall only; annually

Faculty assigned:
Instructors of Design Studio Department

Number & Title of Course:
ARCH 122, Design Studio II, 3 credits

Course Description:
The course builds on the drawing skills and techniques acquired in Basic Design I. It covers the fundamentals of architectural drawing; engineering drawing; conventions of graphic representation; form composition; understanding architectural orthographic drawings; and isometric and perspective drawings. The course examines the language of form and deals with the techniques of analyzing and representing it by different rendering techniques. The course is based on studio exercises and includes lectures. Its contents are arranged on a weekly basis and issued on the scale leading from simpler to complex exercises. By the end of the semester, each student is required to submit a complete project of his own. Lectures are delivered throughout the semester in order to explain the objectives of each stage of the project, the anticipated results and quality, and the methodology to achieve them.

Course Goals & Objectives:

- Understanding fundamentals of drafting and design principles.
- Developing the student's skills of graphic communication as a tool for expressing and developing his/her design ideas.
- Exposing students to three dimensional design presentations.
- Developing abilities to use different techniques for graphic presentation.

Student Performance Criterion addressed:
Not Applicable

Topical Outline:

Assignments	50 %
Mid-Term Exam	10 %
Student's Performance	10 %
Final Jury	30 %

Prerequisites:
ARCH 121, Design Studio I

Textbooks/Learning Resources:
Farghaly, Vasser Ahmed. Fundamentals of Architecture Drawing & Design, Deanship of Preparatory Year and Supporting Studies, University Of Dammam. 2013.
Ching Francis O.K., Architecture: Form, Space and Order, 4th Edition, John Wiley & Sons Inc., New Jersey, 2014.
Ching Francis O.K., Design Drawing, 2nd Edition, John Wiley & Sons Inc., New Jersey,2010.

Offered (Semester and year):
Spring only; annually

Faculty assigned:
Instructors of Design Studio Department

Number & Title of Course:
COMP 131, Computer Skills, 2 credits

Course Description:
Computer skills course is designed to familiarize Engineering track students with computer system components, computer management, Image editing and Computer Aided Design (CAD) and their applications. It will also emphasize the use of computers and technology throughout their college and future careers.

Course Goals & Objectives:
The main purpose of this course is to prepare students in engineering track to their study at the engineering track colleges by developing their skills in image editing and 2D drawing.

Student Performance Criterion addressed:
Not Applicable

Topical Outline:

3 Quizzes	25 %
Assignments (Practical)	5 %
Mid Term Exam (Practical)	30 %
Assignments in AutoCAD (Lab work)	10 %
Final Exam (Practical)	30 %

Prerequisites:
Admission

Textbooks/Learning Resources:
Imam Abdulrahman Bin Faisal University. (2017). Computer Skills for Engineering Track Students. Dammam: Imam Abdulrahman Bin Faisal University.
Mark Dix, Paul Riley. (20 17). Discovering AutoCAD 2017 1st Edition. Peach pit Press.
Richard Harrington.(2013). Understanding Adobe Photoshop CS5: The Essential Techniques for Imaging Professionals 1st Edition. Peach pit Press.

Offered (Semester and year):
Spring only; annually

Faculty assigned:
Instructors of Computer Science Department

Number & Title of Course:
PHYS 132, Physics, 3 credits

Course Description:
This course is a one-semester algebraic based physics course covering the fundamental principles and laws of mechanics such as describing motion, falling objects, projectile motion and Newton's laws of motion in a wide variety of applications. The course also presents and introduction to waves (sound and electromagnetic waves). These areas of study are important in a wide variety of engineering applications. For example, an understanding of wave properties is essential in the proper design of structure.

Course Goals & Objectives:

- The PHYS-132 course aims to describe the physical phenomena in nature using physical models, rules, and principles. It helps to identify the performance of scientific principles in practical applications and application of knowledge, experience and skill acquired in an innovative way. This helps students understand the importance of physics in the practical life.
- The main goal of this course is establishing the students at the engineering track in physics basic principles and concepts that will help students in their high schools (Engineering and Architecture and planning colleges).

Student Performance Criterion addressed:
Not Applicable

Topical Outline:

Test 1	15 %
Test 2	15 %
Quiz 1	5 %
Quiz 2	5 %
Homework (Online)	5 %
Tutorial-1	2.5 %
Tutorial-2	2.5 %
Participation	10 %
Final Exam	40 %

Prerequisites:
MATH 111, Mathematics I

Textbooks/Learning Resources:
College Physics For Pre-Engineering Students, is a customized version of the OpenStax College Physics Book (www.openstax.org).

Offered (Semester and year):
Spring only; annually

Faculty assigned:
Instructors of Basic Science Department

Number & Title of Course:
LRSK 141, Learning & Searching Skills, 2 credits

Course Description:
This course is designed to help students acquire and develop important study and searching skills that are required to achieve greater success in their university life. By extension, the learning will instill in students' skills which they will carry with them to apply in their post-university life. The course covers topics in core study and basic search skills. Topics are interlinked and provide students with essential strategies and practical skills necessary for their success at university.

Course Goals & Objectives:
The main objective of this course is to help students learn, adjust, and successfully manage the challenges that they will encounter in their academic and personal life at university; and as future professionals as well as members of the wider community.

Student Performance Criterion addressed:
Not Applicable

Topical Outline:

Reflective assignments (individual & group)	30 %
Search assignment (group)	20 %
Quiz 1	5 %
Quiz 2	5 %
Final Exam	40 %

Prerequisites:
Admission

Textbooks/Learning Resources:
Self-development department LSRK faculty members. 2018. LRSK Lecture Notes, 1st ed. Dammam: Imam Abdulrahman Bin Faisal University (IAU).
McMillan, K., & Weyers, J. (2012). The study skills book. Pearson Higher Ed. (IAU compiled version).

Offered (Semester and year):
Fall only; annually

Faculty assigned:
Instructors of Learning & Searching Department

Number & Title of Course:
LRSK 142, Communication Skills, 2 credits

Course Description:
This course covers the main communication skills that are essential for developing and improving students' communications' effectiveness as well as their awareness of the importance of communication in their personal, academic and professional life. It helps them identify and overcome the common verbal and non-verbal communication s barriers which can affect them being successful communicators. The course also engages students in practical activities (presentations, roleplays, interviews, written communications) which provide them with opportunities to apply effective communication strategies, assess themselves and improve their skills.

Course Goals & Objectives:
To improve students' knowledge of the way in which communication functions and apply effective communication skills and strategies for effective communications in different settings (social- academic-professional).

Student Performance Criterion addressed:
Not Applicable

Topical Outline:

Written assignment: (designing a CV)	10 %
Role Play	10 %
Quiz 1	5 %
Quiz 2	5%
Short presentations of NABD activities.	20 %
Participation	10 %
Final Exam	40 %

Prerequisites:
Admission

Textbooks/Learning Resources:
Self-development department LSRK faculty members. 2018. LRSK Lecture Notes, 1st ed. Dammam: Imam Abdulrahman Bin Faisal University (IAU).
Eunson, B. 201 2. Communicating in the 21st century (3rd ed.). Milton John Wiley & Sons Australia, Ltd.
Tom Bums. 20012 Essential Study Skills: The Complete Guide to Success at University (SAGE Study Skills Series)

Offered (Semester and year):
Spring only; annually

Faculty assigned:
Instructors of Learning & Searching Department

Number & Title of Course:
ARCH 201, Design Studio III (Architecture and Interior Design), 4 credits

Course Description:
This course introduces the architectural and interior design process in the form of phases, activities, and parties involved. This is accomplished through different pragmatic studies. Topics covered include: description of each phase, activities and objectives; models for problem-solving process in design utilizing graphic thinking.
Emphasis is set upon the understanding of socio-cultural, economic, environmental, climatic, behavioural, and psychological issues, additionally basic technical aspects of spatial composition and development, building function, and construction materials and systems are explored.
In addition, interior space delineation, rendering techniques, evaluation and preparation of space program, furnishings, materials, and lighting are important physical aspects requiring comprehensive studies.

Course Goals & Objectives:
- To enable students to understand the system of design process and development
- To enable students to understand the basic methods of interior space design and their relation to the human behaviour of the space.
- To establish a need/requirement, leading to project definition.
- To summarize all the issues to the point where conceptual ideas can be initiated.
- To form critical appraisals of an existing similar function (case studies).
- To enable students to learn about furniture placement and sizing related to function of a space.

Student Performance Criterion addressed:
Not Applicable.

Topical Outline:
Drawing skills, Anthropometric studies, Site studies, case studies, 40%
Design Development 60%

Prerequisites:
Pass Preparatory year.

Textbooks/Learning Resources:
Neufert 3rd edition Author Bousmaha Baiche Nicho Publisher Blackwell Science
Time Saver Architectural Graphic Standards Author John Wiley & Sons, Inc. New York, NY las Walliman Publisher John Wiley & Sons, Inc. New York, NY
Ching, F. (1997) A Visual Dictionary of Architecture, New York: John Wiley & Sons, Inc.
Ching, F. (1979) Architecture: Form, Space, and Order, New York: Van Nostrand Reinhold Company.

Offered (semester and year):
Fall only; annually.

Faculty assigned:
Dr. Badran Alzenifeer, Dr. Aymen Hashem, Lect. Abdulkader Ayad Al-Swidan, Dr. Wadee Ahmed Algehlani, Eng. Fahd Alassaf, Arch. Abdullah a. Alansari, Lect. Turki Althaqib, Eng. Terad Alshater, Lect. Waleed Alrushidan, Lect. Ahmed Alrashed, Eng. Mohammed Ali Almutairi, Lect. Bomgwirnso Umaro, Dr. Mohamed Haballas, Eng. Marwan Magdy Al-adbullah, Dr. Abdulaziz Ibrahim Almulhim, Lect. Islam Mostafa, Lect. Fahad Alshiddi, Lect. Yousef Alsuhaymi, Lect. Omair Albeshe, Lect. Omar Busbait, Lect. Meshari Albaqmi, and Arch. Mashal Battoyor.

Number & Title of Course:
ARCH 202, Design IV (Landscape & Urban Design), 4 credits

Course Description
Further development of students' previous design projects, with emphasis on small scale projects stressing design principles and composition, landscape design, site planning, and urban planning.

Course Goals & Objectives:
- Understanding design principles both functional and visual.
- Demonstrating an understanding of composition: form-function relationships, zoning, and context.
- Generating design ideas that address specific design problems.
- Understanding the meaning of form (aesthetic) and functions (criteria).
- Understanding relationships between various components: spaces and masses.
- Demonstrating abilities to use graphics: using appropriate scale to draw plans, sections, elevations, perspectives, and producing models.

Student Performance Criterion addressed:
Not Applicable.

Prerequisites:
ARCH 201, Design III

Textbooks/Learning Resources:
Urban Design Associates: The Urban *Design Handbook: Techniques and Working Methods*. New York: W.W.Norton and Co. 2005.
Booth, Norman, K.: Basic Elements of Landscape Architectural Design. New York: Elsevier
Reid, Grant W.: *From Concept to Form in Landscape Architecture*, New York: Van Nostrand Reinhold, 1993.
Scott Van Dyke: *From Line to Design: Design /Graphics/Communication*, Third Edition 1990, Van Nostrand Reinhold.
Grant W. Reid, Landscape Graphics: From concept sketch to presentation rendering, 1987, Whitney Library of Design.
Moughtin, Cliff: *Urban Design, Methods and Technique*. NY: Architectural Press, 1999.

Offered (semester and year):
Spring only; annually

Faculty assigned:
Dr. Aymen Hashem, Lect. Abdulkader Ayad Al-Swidan, Dr. Wadee Ahmed Algehlani, Eng. Fahd Alassaf, Arch. Abdullah a. Alansari, Lect. Ahmed Alrashed, Eng. Mohammed Ali Almutairi, Lect. Islam Mostafa, Lect. Fahad Alshiddi, Lect. Yousef Alsuhaymi, Lect. Omair Albeshe, Lect. Meshari Albaqmi, Lect. Hamad Alabdulrazzaq, Lect. Yousif Alsaeed, Lect. Ahmed Aldossary, Eng. Marwan Magdy Al-adbullah and Arch. Mashal Battoyor.

Number & Title of Course:
ARCH 211, Concepts of Structure, 3 credits

Course Description:
Study of the necessary fundamentals of structure, including an introduction to structural phenomenal loads, forces, reaction, structural elements, types of supports, stability and analysis and determinacy.

Course Goals & Objectives:

- To demonstrate an understanding of the structural behavior.
- To demonstrate an understanding of the structural components.
- Offer simplified calculation of the straining actions of the structural elements.
- Provide students with fundamental structural formulas to understand their behavior for internal and external subjective forces.

Student Performance Criterion addressed:
Not Applicable.

Topical Outline:
Calculation of the straining actions of the beams. (35%)
Calculation of the straining actions of the frames. (25%)
Calculation of the straining actions of the trusses. (20%)
Calculation of the normal stress distribution. (20%)

Prerequisites:
Preparatory year.

Textbooks/Learning Resources:
Structural Analysis by R.C. Hibbeler
Structural Analysis by: R.C. Coates, M.G. Coutie & F.K. Kony

Offered (semester and year):
Spring only; annually.

Faculty assigned:
Dr. Mohamed Rahal.

Number & Title of Course:
ARCH 212, Construction Systems & Materials, 3 credits

Course Description:
It introduces the principles and fundamentals of building construction and materials including techniques, methods, structural systems, foundation, openings, insulation and specifications of the materials.

Course Goals & Objectives:

- Expose the students to the principles and fundamentals of construction of buildings.
- Expose the students to theoretical concepts of construction systems and types of loads which would affect the buildings.
- Expose students to the physical, chemical, and structural properties of varies materials used in construction and methods of use and potential applications.
- Expose students to the alternative building materials those are available in the local market and gulf region.
- Enable students to simple thumb rule calculations that can be used to make preliminary ideas of sizes of columns, beams, and floor systems.
- Enable students to learn the drawing skills of building parts quickly and correctly.
- Enable students to choose the right type of materials during the design stages.

Student Performance Criterion addressed:
B.8 Building Materials and Assemblies.

Topical Outline:
Construction materials (70%)
Construction systems (30%)

Prerequisites:
Pass Preparatory Year

Textbooks/Learning Resources:
Construction principles, materials, and methods by H.Leslie Simmone, Published by John Wiley & Sons 2000.
Building Construction Illustrated, by Francis Ching published by john Wiley & Sons 2008.

Offered (semester and year):
Fall only; annually

Faculty assigned:
Faris Alfaraidy.
Fahad Alyami.
Eshaq Alhashmi.
Abdulaziz Alkelani.

Number & Title of Course:
ARCH 221, Surveying, 2 credits

Course Description:
Introduction to surveying techniques: linear measurements, angular measurements using theodolite and total station, traverses, leveling, contouring, computation of areas and volumes, as well as surveing of building sites.

Course Goals & Objectives:

- To demonstrate the ability to lay off and lay out buildings.
- To demonstrate an understanding of earthworks.
- Offer simplified calculation for the areas and the excavation volume.
- To demonstrate an understanding of leveling and traverses.
- To demonstrate an understanding of mapping and contouring.

Student Performance Criterion addressed:
Not Applicable.

Topical Outline:
Linear measurements. (25%)
Angular measurements using theodolite and total station. (25%)
Leveling. (25%)
Computation of areas and volumes. (25%)

Prerequisites:
Pass Preparatory year.

Textbooks/Learning Resources:
Surveying: Principles and Application, By Barry F. Kavanagh, 8th Edition 2008, Prentice Hall pub.
Solving Problems in Surveying, A. Bannister and R. Baker.

Offered (semester and year):
Fall only; annually.

Faculty assigned:
Dr. Mohamed Rahal.

Number & Title of Course:
ARCH 222, Environmental Control Systems I (Thermal), 2 credits.

Course Description:
The course aims to enable students to understand the direct relationship between the climate (macro and micro) and human comfort. A brief introduction to climatology and weather deviations. Explaining the techniques and tools of analyzing and controlling the macro and micro climatic factors affecting the building, and enable the students to understand the building envelope architectural components that help control the indoor thermal environment.

Course Goals & Objectives:

- To develop student's understanding of the relation between micro and macro climate and human comfort.
- To promote student's knowledge about sun path, solar angles, shadow angles, different types shading masks and devices.
- To increase student's awareness of tools and techniques of passive design to achieve indoor thermal comfort and minimize dependencies of traditional energy sources as part of sustainability objectives.
- To develop student's skills in analyzing climatic elements using and extracting information from solar charts, shadow angle protractor, Olgey's chart, and psychometric chart.

Student Performance Criterion addressed:
B.6 Environmental Systems
B.7 Building Envelope Systems and Assemblies

Topical Outline:
Introduction of Environmental Control Systems 8%
Principle of climate and metrology 15%
Sun and its control in Architecture 24%
Passive design 8%
Thermal transfer 15%
Thermal comfort 15%
Bioclimatic architecture principles, passive and active systems. 15%

Prerequisites:
Pass Preparatory year.

Textbooks/Learning Resources:
Bourgeois, Jean-Louis. (1989) *Spectacular vernacular: the adobe tradition*. New York: Aperture, 1989.
Erell, E. et al. (2011). Urban Microclimate: Designing the Spaces Between Buildings. 1st ed. Earthscan
Givoni, Baruch. (1998) *Climate Considerations in Buildings and Urban Design*. New York: Van Nostrand.
Heschong, Lisa. (1979) *Thermal delight in architecture*. Cambridge, Mass.: MIT Press.
Santamouris, M. (2001). *Energy and Climate in the Urban Built Environment*. London, UK: James & James (Science Publisher) Ltd.
Strub, Harold. (1996) *Bare Poles: building design for high latitudes*. Ottawa : Carleton University Press.
Szokolay, Steven. (2008) Introduction to Architectural Science: The Basis of Sustainable Design. 2nd ed.

Offered (semester and year):
Spring only; annually.

Faculty assigned:
Dr. Badran Alzenifeer & Dr. Abdulrahman Alshaikh.

Number & Title of Course:
ARCH 231, Environmental Design I, 2credits.

Course Description
Introduction to the art and science of Architecture, Interior design, and Building technology as the environmental design professions, and the process of environmental design goal formulation.

Course Goals & Objectives:

- To define what is meant by Architecture, Interior design, and Building technology.
- To acquaint the students with different theories of Architecture, Interior design, and Building technology.
- To identify different types of Architecture, Interior design, and Building technology.
- To fully explain the process of Architecture, Interior design, and Building technology.
- To present a historical perspective of Architecture, Interior design, and Building technology.
- To present the major professional activities of Architecture, Interior design, and Building technology.

Student Performance Criterion addressed:
Not Applicable

Topical Outline:
Architecture.
Interior design.
Building technology.

Prerequisites:
Pass Preparatory Year

Textbooks/Learning Resources:
Roaf, Sue. *Ecohouse – a Design Guide*. Architectural Press, Oxford, U.K. 2001.
Wood, C. Environmental Impacts Assessment: a Comparative review. Longman Group Ltd, Harlow, 2000.
Preiser W., Rabinowitz H., White E., *Post Occupancy Evaluation*, Van Nostrand Reinhold Company, New York, 2002,
Botkin, Daniel. A New Ecology for the Twenty- First Century. Oxford, 2003.
Bron, G. Z. & Dekay, Mark. *Sun Wind & Light*, John Wiley & Sons. Inc. New York, U.S.A. 2001.
Hardoy, j. E. Mitlin, & Satterthwaite, D. *Environmental Problems in Third World Cities*. London. Earthscan Publication, Ltd. 2002.
Van Der Ryn, Sim & Cowan, Stuart. *Ecological Design*. Island Press. New york, U.S.A.. 2004.
Hassan Fathy " Architecture for the Poor " An Experiment in Rural Egypt, University Of Chicago Press,

Offered (semester and year):
Fall only; annually

Faculty assigned:
Suhimi, Trad.

Number & Title of Course:
ARCH 232, Environmental Design II, 2credits.

Course Description
Introduction to the art and science of Urban Planning and Landscape Architecture as environmental design professions, with focus on the process of plan making, from goal formulation to master-planning.

Course Goals & Objectives:

- To define what is meant by planning.
- To acquaint the students with different levels of planning e.g. national, regional and so forth.
- To identify different types of planning; physical, social, economic and environmental.
- To fully explain the process of plan making.
- To present a historical perspective of the profession of Landscape Architecture;
- To present the major professional activities of Landscape Architects as Designers and Landscape Planners.

Student Performance Criterion addressed:
Not Applicable.

Topical Outline:
Urban Planning.
Landscape Architecture.

Prerequisites:
Pass Preparatory Year

Textbooks/Learning Resources:
Katanyse, J. Introduction to Urban Planning
Laurie, Michael. An Introduction to Landscape Architecture. New York: American Elsevier, 1975.
American Planning Association (2006) "Planning and Urban Design Standards", John Wiley & Sons,
Simonds, John O. Landscape Architecture. New York: McGraw-Hill, 1983.
Marsh, William M. Landscape Planning, Environmental Application. New York: John Wiley & Sons, 1991

Offered (semester and year):
Spring only; annually

Faculty assigned:
Instructor from Landscape & Urban planning departments.

Number & Title of Course:
ARCH 241, CAD Applications, 2 credits

Course Description:
Introduction to the fundamentals of Computer Aided Design, beginning with simple drafting commands and standard drafting methods to produce technical and standard 2D drawings.

Course Goals & Objectives:

- Develop student's knowledge about technical and standard 2D drafting techniques
- Train students how to deal with various equipment that are used with CAD systems
- Develop basic knowledge of students about Mass modeling
- Train students on proficient production of drawing documents and integrate it with other project documents.

Student Performance Criterion addressed:
Not Applicable.

Topical Outline:
Working with the AutoCAD interface (10%)
Drawing Basic/Advanced geometry (50%)
Modifying objects - Adding Annotations (30%)
Printing and plotting (10%)

Prerequisites:
Pass preparatory year

Textbooks/Learning Resources:
Brian, C. Benton. Mastering AutoCAD 2019 and AutoCAD LT 2019 (wiley, 2019)

Offered (semester and year):
Fall only; annually.

Faculty assigned:
Lect. Omair Albeshe
Lect. Mishari Albagmi
Lect. Ahmed Abdelaal

Number & Title of Course:
ARCH 242, Advanced CAD & GIS Applications, 2credits.

Course Description
Introduction to the fundamentals of 3D modeling and GIS concepts and techniques, including conversion of 2D to 3D, mash & mesh models, and compilation between these models

Course Goals & Objectives:

- To develop Student's sense of architectural space.
- To develop student's knowledge about 3D mass and mesh modeling and techniques
- To increase the students skills in 3D Modeling
- To attract students to the differences between various types of geographic phenomena
- To train students on the use GIS to examine an urban phenomenon
- To train students on various types of computer representations of geographic information

Student Performance Criterion addressed:
Not Applicable.

Topical Outline:
Advanced CAD (50%)
GIS Applications (50%)

Prerequisites:
ARCH 241, CAD Applications.

Textbooks/Learning Resources:
Aubin, Pual F. (2006). Mastering Autodesk Architectural Desktop.
The publishing's of ESRI (Getting start, ArcMap, ArcCatalog, ArcEditing)
ARCGIS Data tutorial and ARCGIS Text tutorial

Offered (semester and year):
Spring only; annually

Faculty assigned:
Lect. Ahmed Abdelaal, Lect. Omair Albeshe, Dr. Wesam Abdou, Dr. Tahir, and Arch. Mashal Battoyor.

Number & Title of Course:
ARCH 251, Design Methods I, 2 credits

Course Description:
Design Method will illustrate the definition of design, the principle of design and the elements of design within the framework of design process. How physical and social aspects of design is analyzed, synthesized and proposed in a space are the main fundamentals and focus of this course. In addition, this course will cover different theories, concepts and criteria in accordance with design principles in order to understand similarities and differences in the design projects.

Course Goals & Objectives:

- Understanding the system of design process.
- To enable students to understand the basic methods of space/spatial design
- To construct design program, design definition, relevant need/requirement and different design phases
- To demonstrate and develop design skill through design concept, criteria and design philosophy

Student Performance Criterion addressed:
A.5 Ordering Systems

Topical Outline:
Design Methodologies 50 %
Design Elements and ordering systems (50 %)

Prerequisites:
Pass preparatory year

Textbooks/Learning Resources:
Ching, Francis D.K. - Architecture, Form, Space & Order – John wiley & sons,INC- 2 Edition- Canada, 1996
Lawson, B. " How Designers think" , the architecture press, LTD, London, 1980
G. Abdelghany and Eglal Aljofi, Design Method, unpublished lectures, 2013
A vocabulary of architectural forms

Offered (semester and year):
Fall only; annually

Faculty assigned:
Dr. Aymen Hashem A. Alsayed (Course coordinator),
Lect. Omair Albeshe
Lect. Meshari Albaqmi
Arch. Abdullah a. Alansari,
Arch. Mashal Battoyor.

Number & Title of Course:
ARCH 252, Site Planning, 2 credits.

Course Description
Introduction to the theories and methods of spatial arrangement and management of external physical environment, including site selection, creation of meaningful spaces, and site planning to achieve the ideal relationship between the building and the site.

Course Goals & Objectives:

- To understand site planning principles, process and steps.
- To know site analysis methods and techniques and its effects on the proposed project.
- To have the ability to determine type of project users and how their needs can be satisfied.
- To develop an understanding of design concepts.
- To develop an understanding of site design; form, spatial organization and site hierarchy.

Student Performance Criterion addressed:
Not Applicable

Topical Outline:
Quizzes 2 to14th. Week 10%
Midterm exam 9th. 20%
Assignments 2 to14th. 20%
Attendance 10%
Final exam 16th. 40%

Prerequisites:
Pass preparatory year

Textbooks/Learning Resources:
Site Planning: Environment, Process and Development, R. Gene Brooks, 1988
Site Analysis, James A. LaGro Jr., 2001

Offered (semester and year):
Spring only; annually

Faculty assigned:
Rawaf & Suhimi

Number & Title of Course:
ARCH 301, Design Studio V, 5 credits

Course Description:
This course teaches students how to deal with architectural design problems with an increasing complexity by integrating spatial, programmatic, and material strategies. They will learn how to proceed from one stage to another and how to link design stages together. The course emphasizes on the systematic application of sustainability concept represented by the environmental and cultural parameters into the design project.

Course Goals & Objectives:

- Develop students' design skills regarding integration of building form, function, context etc.
- Develop students' understanding of how the project's design would develop.
- Develop students' ability to proceed from one stage to another as a design process.
- Enhance students' awareness of the sustainability concept and apply it in the design.

Student Performance Criterion addressed:
A2. Design Thinking Skills:
A4. Architectural Design Skills:

Topical Outline:
Collecting information & data analysis (25%)
Concept generation & Schematic Design Development (15%)
Design Development (50%)
Drawing and other representational techniques (10%)

Prerequisites:
ARCH 202, Design IV

Textbook/ Learning Resources:
Archer, B. 2003. An overview of the structure of the Design Process English Universities Press
Architectural magazines (e.g. Architecture Record, Doms, A+U, Al Bena, Detail etc)
Time-saver standards for interior design and space planning. De Chiara, Joseph, 1929-, Panero, Julius, Zelnik, Martin, 1939- McGraw-Hill, c1991
Ching, Francis D. K.; Architecture: Form, Space, and Order, John Wiley & Sons; 3rd edition ,2007

Offered (semester and year):
Fall only; annually

Faculty assigned:
Dr. Mohammed Hapallas
Dr. Hazem Afify
Dr. Abed Almusallam
Lect. Islam Mostafa
Lect. Omair Albeshe
Lect. Omar Busbait
Lect. Turki Althaqib
Arch. Abdullah a. Alansari,
Arch. Mashal Battoyor.

Number & Title of Course:
ARCH 302, Design Studio VI, 5 credits

Course Description:
Students will learn how to approach and process relatively complex architectural design forms, considering: functional, symbolic, organizational, aesthetic, and structural parameters of the architectural space. This course motivates students to explore possible structural solutions for long span spaces. Students will apply the concept of sustainability, firstly by choosing the innovative system that best fit the architectural design solution and secondly by considering local cultural and environmental parameters in the project design.

Course Goals & Objectives:

- Develop students' skills in designing complex forms while considering the space design parameters, i.e. the function, context, aesthetics, composition, etc.
- Develop students' awareness of long span structural systems.
- Develop students' awareness of codes & regulations.
- Instruct students on cultural and environmental dimensions in building design.

Student Performance Criterion addressed:
A5. Ordering Systems
B3. Codes and Regulations

Topical Outline:
Collecting information & data analysis (25%)
Concept generation & Schematic Design Development (15%)
Design Development (50%)
Drawing and other representational techniques (10%)

Prerequisites:
ARCH 301, Design Studio V

Textbook/ Learning Resources:
Archer, B. An overview of the structure of the Design Process / English Universities Press 2003
Ching, Francis D. K.; Architecture: Form, Space, and Order, John Wiley & Sons; 3rd
Clark, Roger H, Precedents in Architecture: Analytic Diagrams, Formative Ideas, and Partis, John Wiley & Sons; 4th edition, 2012
Heino Engle; Structural Systems, Publisher Hatje Cantz 3rd edition, 2007

Offered (semester and year):
Spring only; annually

Faculty assigned:
Dr. Mohammed Hapallas,
Dr. Hazem Afify,
Dr. Abed Almusallam,
Dr. Mohamad Jalal Istanbouli,
Lect. Islam Mostafa,
Lect. Omair Albeshe,
Lect. Turki Althaqib,
Arch. Mashal Battoyor.

Number & Title of Course:
ARCH 311, Advanced Design Methods, 3 credits

Course Description:
This course examines site and environmental issues as well as the building process cycle, including program analysis and space requirement computation. The design process will be explored through detail study of spatial relationships, zoning analysis, and concept formulation, including case study analysis. The design process will also focus on case studies where technical, functional, and behavioral evaluation of buildings will be undertaken.

Course Goals & Objectives:

- Understanding the design process such as data gathering, analysis, concept generating, evaluation and communication.
- Help the students to understand site and functional studies, initiate design concepts
- The student will be exposed to different design issues relating to man and his response to the built and natural environment.
- Enable the students to study and analyze existing buildings, understand the positive and negative issues for a better approach to design.

Student Performance Criterion addressed:
Not Applicable.

Topical Outline:
Collecting information & data analysis (25%)
Concept generation & Schematic Design Development (15%)
Individual Research (60%)

Prerequisites:
ARCH 251, Design Methods 1

Textbook/ Learning Resources:
Analyzing Architecture, Simon Urwin, Taylor & Francis Inc. 2004
Site Analysis, James A. LaGro, John Wiley & Sons Inc. 2007
Lawson, B. “How Designers think” , the architecture press, LTD, London, 1980

Offered (semester and year):
Fall only; annually

Faculty assigned:
Dr. Hazem Afify
Lect. Hamad Alabdulrazzaq
Lect. Turki Althaqib

Number & Title of Course:
ARCH 321, Construction Systems & Assemblies, 3 credits

Course Description:
It explores different types building systems, with special attention to the detailing of construction parts, joints and connections. Systems include foundations, flooring, roofing, walls, frames, long span, tensile structure, ducting and piping. It examines the advantages and disadvantages of the different systems under which an appropriate one can be selected for any particular design

Course Goals & Objectives:
Achieve an understanding of the following topics:

- Different systems used in the construction of buildings and other structures
- Advantages and disadvantages of the different systems
- Construction methods and processes that are unique to each system
- Assemblage details of building parts, joints and connections that are critical to performance
- Conditions that are considered in evaluating and selecting the appropriate system
- Factors that contribute to sustainability and building construction

Student Performance Criterion addressed:
B.7. Building Envelope and Assemblies
B.8. Building Material and Assemblies

Topical Outline:
Fundamentals of construction systems such as: foundations, flooring, roofing, walls (masonry, load-bearing wall, curtain wall), frame, shell, space frame, long span, and tensile structure (70%).
Drawing detail of building parts, joints and connections (30%).

Prerequisites:
ARCH 212, Construction Systems & Materials

Textbooks/Learning Resources:
Fundamental of Building Construction: Materials & Methods, by Edward Allen & Joseph Iano. Building Construction Illustrated, by Francis D.K. Ching
Sustainable Construction: Green Building Design and Delivery by Charles J. Kibert
Internet web-sites

Offered (semester and year):
Fall only; annually

Faculty assigned:
Dr. Abed Almusallam, & Lect. Ahmed Aldossary

Number & Title of Course:
ARCH 322, Environmental Control Systems II, 3 credits

Course Description:
The course introduces students to the basic concepts of environmental control systems (i.e. services, lighting and acoustics systems) that are used in buildings. It reviews human activities and patterns of buildings' use and teaches students choose an optimum control system of the internal environment comfortable for users. It illustrates the visual comfort requirements and its relationship with to the human activities. These include various methods that are usually used to control daylight in buildings. It also demonstrates principles of artificial lighting, and components of lighting systems. It introduces students to the building's services concepts that would include water supply and sewage systems, elevators, escalators and fire safety installations and systems. Through this course, students will gain general knowledge about acoustics principals and the application of acoustical principles into architectural spaces.

Course Goals & Objectives:

- Environmental Systems: Understanding the principles of environmental systems' design such as embodied energy, active and passive heating and cooling, indoor air quality, solar orientation, daylighting and artificial illumination, and acoustics; including the use of appropriate performance assessment tools
- Building Service Systems: Understanding of the basic principles and appropriate application and performance of building service systems such as plumbing, electrical, vertical transportation, security, and fire protection systems.

Student Performance Criterion addressed:
B.6 Environmental Systems
B.9 Building Services Systems

Topical Outline:
Environmental Systems (20%)
Building Services Systems (80%)

Prerequisites:
ARCH 222: Environmental Control System I

Textbooks/Learning Resources:
Mechanical and Electrical Equipment for Buildings, Walter T. Grondzik, Alison G. Kwok, Benjamin Stein, John S. Reynolds, 13th edition, John Wiley & Sons.
Building Services Handbook, 9th edition, Fred Hall & Roger Greeno, Routledge.
L.V. Ripka, Plumbing Design and Installation, American Technical Publishers
F. Hall, Plumbing, Cold Water Supply, Drainage and Sanitation, Longman Scientific Technical
Richards R. Janis, and William K.Y. TAO “Mechanical and electrical Systems In building”, Sixth edition, 2018.
D. Chadderton, “Building Services Engineering” 4th Edition (2004)

Offered (semester and year):
Spring only; annually

Faculty assigned:
Lec. Noman Ashraf
Dr. Hany Alseyed hesamoaldeen
Lec. Rehan Jamel
Lec. Meqdad Hasan

Number & Title of Course:
ARCH 331, History & Theory I, 3 credits

Course Description:
Starting with primitive pre-historical architecture, the history of architecture and urbanism of civilizations in the Fertile Crescent, Nile valley, and other ancient civilizations is discussed through an analysis of basic structure, material, and geometry. Emphasis is given to European architecture starting with Classical Greece up to Gothic architecture, addressing structure, function, and aesthetics in their cultural contexts.

Course Goals & Objectives:

- Equip the student with a base of understanding of historical architectural elements.
- Discuss different architectural concepts in relation to different civilizations and periods.
- Explore the role of architecture in civilizations' growth and decline.
- Explore and analyse key master buildings that reflect their cultural context.
- Discuss understanding of architecture in relation to historical episodes.

Student Performance Criterion addressed:
A.7 History and Global Culture
A.8 Cultural Diversity and Social Equity

Topical Outline
The ability to understand and discuss different architectural concepts in relation to different civilizations and periods. 40%
History and Global Culture skills 20%
Cultural Diversity and Social Equity skills 20%
The student's ability to analyze major historical buildings that reflect their cultural context. 20%

Prerequisites:
Pass the Second Year.

Textbooks/Learning Resources:
Moffett, M. et al, A World History of Architecture, Laurence King Publishing, London, 2003.
Fletcher, Banister ,"History of architecture" 20 edition.
Nuttgens, Patrick, The Story of Architecture, Phaidon Press Limited, London. on, 1997.

Offered (semester and year):
Fall only; annually.

Faculty assigned:
Dr. Mohamad Jalal Istanbouli

Number & Title of Course:
ARCH 332, History & Theory II, 3 credits

Course Description
An examination of the roots of modern movement in architecture. Industrial revolution and the emergence of modern architecture. Growth and influence of Bauhaus, International Style and Chicago School, contributions of grand masters such as, Le Corbusier, Mies Van Der Rohe and Walter Gropius. Plurality of architecture expressed through various architectural movements, e.g. Internationalism, Brutalism, Minimalism, late modernism, Post-modernism Course objectives. Understand the concept of modernism and its relation Global Culture.

Course Goals & Objectives:

- Understanding of modern architectural concepts.
- Appreciation of architecture as a manifestation of socio -economic conflicts that occurred during 19th and 20th century Europe and America.
- Understanding the relationship of architecture with engineering, technological development and global culture.
- Understanding the role of new materials in shaping architecture.

Student Performance Criterion addressed:
A.7 History and Global Culture

Topical Outline
Assignments & weekly performance 20%
Model making 20%
Midterm Exam 20%
Final Exam 40%

Prerequisites:
ARCH 331, History & Theory I

Textbooks/Learning Resources:
Moffett, M. Et al, A world History of Architecture, Laurence King Publishing, London, 2003
Nuttgens, Patrick, The Story of Architecture, Phaidon Press Limited, London, 1997.
Frampton, K. Modern Architecture, a Critical History, Thames and Hudson, London, 2007.
https://issuu.com/ebtissammohamedfarid/docs/introduction

Offered (semester and year):
Spring only; annually.

Faculty assigned:
Lect. Islam Mostafa & Lect. Ahmed Abdelaal

Number & Title of Course:
ARCH 341, Structure I, 3 credits

Course Description:
The course overviews the factors that affect the design of R.C and steel structures. Student should be designed and overview types and details in steel structures.

Course Goals & Objectives:

- To demonstrate an understanding of the behavior of R.C. Structures.
- To demonstrate an understanding of the behavior of Steel Structures.
- To demonstrate the ability to suggest the structural system of any building.
- Offer simplified design for the elements of R.C. Structures.
- To demonstrate an understanding of the structural details of steel structures.

Student Performance Criterion addressed:
B.5 Structural Systems.

Topical Outline:
Design of reinforced concrete structures. (70%)
Types and details in steel structures. (30%)

Prerequisites:
ARCH 211, Concepts of Structure

Textbooks/Learning Resources:
Reinforced Concrete Design, by: Chu. Ko Wang & Chakes G. almon
Reinforced Concrete A Fundamental Approach, by: Edwared G. Nawy

Offered (semester and year):
Fall only; annually.

Faculty assigned:
Dr. Mohamed Rahal.

Number & Title of Course:
ARCH 342, Structure II, 3 credits

Course Description:
Introduction to various types of structural systems. These systems include: suspended structures, shells, floor slabs, folded plates, space frame and space truss. Structural systems for resisting seismic, wind and lateral forces.

Course Goals & Objectives:

- Demonstrate to students the behavior of reinforced concrete structures.
- Demonstrate to students the behavior steel structures.
- Instruct students on appreciation of the architectural requirements of buildings.
- Demonstrate the relationship between the structural system and the architectural form.
- Assist students in selection of optimum structural system that responds to the architectural requirements.

Student Performance Criterion addressed:
B.5 Structural Systems.

Topical Outline:
Study the various types of structural systems (60%).
Assist students in selection of optimum structural system that responds to the architectural requirements. (40%).

Prerequisites:
ARCH 341, Structure I

Textbooks/Learning Resources:
Structure Systems.by: Ralph Rapson & Hannskarl Bandel.
Form and Structure in Architecture. by: Alexander Zannos

Offered (semester and year):
Spring only; annually

Faculty assigned:
Dr. Mohamed Rahal.

Number & Title of Course:
ARCH 351, Computer Modeling, 3 credits

Course Description:
The course introduces students to the fundamentals of 3D modelling on both digital and physical forms. It guides students how to build 3D model and teaches them several 3D modelling techniques.

Course Goals & Objectives:
On successful completion of the course, the students should be able to:

- Produce both digital and physical 3D model for any type of building.
- Be efficient and how to reduce the time required for the production of professional models.
- Develop being awareness of the significance of relationships among multiple programs in order to deal with complex forms.

Student Performance Criterion addressed:
Not Applicable.

Prerequisites:
ARCH 242, Advanced CAD & GIS applications.

Offered (semester and year):
Fall only; annually.

Faculty assigned:
Lect. Omair Albeshe.
Lect. Ahmad Alrashed.

Number & Title of Course:
ARCH 352, Humanities I, 3 credits

Course Description:
The course introduces the concept of environmental meaning as part of a cultural system of symbols, and influences peoples' actions and determination of social order. It investigates people's understanding of the meaning of the built environment and objects in different cultural contexts through cognitive perceptions, nonverbal communication, and symbols which make them, for example maintain personal space and territoriality. The course will also explore people's shaping of art objects to express meanings based on social structure and identities and how are these perceived.

Course Goals & Objectives:

- Provide the student with basic understanding of environmental psychology vocabulary.
- Illustrates concepts related to the understanding of cultures of built environment such as meaning, identity, symbol, and place.
- Discuss the impact of built environment on people's socio-cultural context.
- Explore and analyze different examples of spaces, buildings, and art objects from different cultures.
- Understanding of the diverse needs, values, behavioral norms, physical abilities, and social and spatial patterns that characterize different cultures and individuals and the responsibility of the architect to ensure equity of access to sites, buildings, and structure.

Textbooks/Learning Resources:
Lang, J., Creating Architectural Theory: The Role of Behavioral Sciences in Environmental Design, Van Nostrand Reinhold, New York, 1987
Kopec, D., Environmental Psychology for Design, Fairchild Publications, New York, 2006
Lang, J., et al, Designing for Human Behavior: Architecture and the Behavioral Sciences, Dowden, Hutchinson & Ross, Stroudsburg, Pennsylvania, 1974.

Student Performance Criterion addressed:
Not Applicable.

Topical Outline:
Culture and the Built Environment (7%)
Space, Place, and Collective Memory (14%)
Proxemics Theory: Privacy, Territoriality, and Personal Space, Crowding and Density (21%)
Human Perception and Gestalt Theory (14%)
Cognitive Maps and Spatial Behavior (7%)
Anthropometrics and Ergonomics (7%)
Workstation Design (Term paper & project) (21%)
Cultural Diversity and Social Equity (7%)

Prerequisites:
Pass the Second Year.

Offered (semester and year):
Spring only; annually

Faculty assigned:
Dr. Aymen Hashem
Lect. Omair Albeshe
Lect. Abdulkader Alswidan

Number & Title of Course:
ARCH 401, Design Studio VII, 6 credits

Course Description:
In this course housing design problems will be explored within the socio-cultural and environmental context of Saudi Arabia. A vocabulary of housing design concerns is developed to structure theoretical issues of privacy, proxemics, territoriality, perception, and neighborhoods.

Course Goals & Objectives:

- To develop and demonstrate the students' learned abilities and respond to a housing design problem in a comprehensive and organized fashion.
- To design a residential development in the existing urban fabric and address issues of housing design and residential neighborhoods.
- To enhance the quality of the residential environment and manifest architecture as an integrated paradigm of physical, sociocultural, economic, technological, and natural factors.
- To integrate the issue of sustainability in the development of residential designs.

Student Performance Criterion addressed:
A.3 Investigative Skills.
B.2 Site Design.

Topical Outline:
Housing Design skills 40%
Investigation Research and Criticism 40%
Drawing and other presentation skills 20%

Prerequisites:
ARCH 302, Design VI

Textbooks/Learning Resources:
Housing As If People Mattered, Clare Cooper Marcus and Wendy Sarkissian. University of California Press, June 8, 1988
People Places: Design Guidelines for Urban Open Space, 2nd Edition, Clare Cooper Marcus & Carolyn Francis, John Wiley Sons, 1997

Offered (semester and year):
Fall only; annually.

Faculty assigned:
Dr. Mohammed Almahmood (coordinator),
Dr. Mohammed Alhefnawi,
Dr. Mohamad Jalal Istanbouli,
Dr. Ayman H. A. Alsayed
Dr. Wadee A. Algehlani,
Dr. Abed Abdullah Al-Musallam
Lect. Ahmed Alrashed

Number & Title of Course:
ARCH 402, Design Studio VIII, 6 credits

Course Description:
This course focuses on the appropriate design of the urban environment within the socio-cultural and other related factors in the context of Saudi Arabia. The course exposes students to a vocabulary of urban design based on the theoretical issues of imageability, districts, nodes, edges, paths and landmarks.

Course Goals & Objectives:

- To develop and demonstrate the students learned abilities to respond to an urban spatial problem in a comprehensive and organized manner.
- Develop and/or revitalize an existing urban fabric and address the issues of urban design and urban community structures.
- Enhance the urban quality of life and view architecture as an integration of context, climate, culture, technology and economic factors.

Student Performance Criterion addressed:
A.6 Use of Precedents
B.2 Site Design

Topical Outline:
Urban Design skills 40%
Research, Analysis and Criticism 40%
Drawing and other presentation skills 20%

Prerequisites:
ARCH 401, Design VII

Textbooks/Learning Resources:
Larice, M &macdonald, E (eds) (2007). The urban design reader. Routledge, London.
Madanipour, A (1996). Design of urban space. West Sussex, Wiley.
Barnett, J., An Introduction to Urban Design, Harper & Raw Publishers, New York, 1982.

Offered (semester and year):
Spring only; annually.

Faculty assigned:
Dr. Mohammed Almahmood (coordinator),
Dr. Abed Abdullah Al-Musallam,
Prof. Hani Alqhtani,
Dr. Mohammed Alhefnawi,
Dr. Mohamad Jalal Istanbouli,
Dr. Wadee A. Algehlani,
Dr. Ayman H. A. Alsayed
Lect. Yousif Alsaeed
Lect. Ahmed Alrashed

Number & Title of Course:
ARCH 411, Housing & Settlements, 3 credits

Course Description:
The course includes an examination of factors effecting Settlement's pattern, housing layout, house typologies and their built environment in Saudi Arabia. The socio-cultural specificity of housing, the modern context, of urban housing and the design approaches are explored. The course is a preparation for Design Studio VII and should have potentials for practical application in design.

Course Goals & Objectives:

- Having a good knowledge on the history of human settlements,
- Understand the typologies and layouts of housing projects,
- Clarify housing project design process and housing projects analyses,
- Prepare and present a report on the Cultural Diversity and Social Equity factors and its impacts on housing project design. Analyses of a number of housing projects is a must.
- Prepare and present a report on the relationships among key stakeholders in the design process and the architect's role to reconcile stakeholder needs. Analyses of a number of housing projects regarding the report subject is a must.

Student Performance Criterion addressed:
A.8 Cultural Diversity and Social Equity
D.1 Stakeholder Roles in Architecture

Topical Outline:
History of Human Settlements 17 %
Definitions, Components, typologies and layouts of Housing projects (17 %)
Methodology of design and analyses of housing projects (33 %)
Factors and Principles considered in housing design: Cultural Diversity and Social Equity, and Stakeholder Roles in Architecture: design consideration, analyze, and evaluate (33 %)

Prerequisites:
Pass the Second Year.

Textbooks/Learning Resources:
Shafaq Awad Alwakeel, "Urban Planning: Housing - Services- Circulation" Part one and Part 2, First Edition, EyKopa, Cairo, 2007, (in Arabic language).
Rapoport, Amos, House Form and Culture, Prentice-Hall, Englewood Cliffs, 1969 Alexander, C. et.al. A pattern Language, Oxford University Press, 1977.
Talip, Kaizer, Shelter in Saudi Arabia, St. Martin's Press, 1984.
Bianca Stefano, Urban Form in the Arab World, Past and Present, Themes and Hudson, 2000 Habraken, N. John, Supports: An Alternative to Mass Housing, Translated by B. Valkenburg, The Architectural Press, London, 1972,
Marcus, Clare Cooper et.al. Housing as if People Mattered, University of California Press, Berkeley, 1986,
Akbar, Jamel; Crises in The Built Environment: The Case of the Muslem City, Mimar Book, Concept Pre Ltd, Singapore, 1988.
Al-Naim, Meshary; Potentiality of the Traditional House: a Case Study of Hofuf, Al-hasa, The G.C.C. Folklore Center, Doha, 1988,

Offered (semester and year):
Fall only; annually

Faculty assigned:
Dr. Aymen Hashem A. Alsayed (Course coordinator), Lect. Yousif Alsaeed

Number & Title of Course:
ARCH 412, Issues in Urban Design, 3 credits

Course Description:
The course reviews the various factors influencing the design of urban spaces, the different design elements and the design process.

Course Goals & Objectives:

- Introduce the students to the discipline of urban design, including highlighting its relationship to architecture and planning.
- Discuss the different elements used in the design of urban spaces, to the factors that shape the form of the urban spaces and to the process of designing these spaces.
- Highlight contemporary problems of urban design in Saudi Arabia, including pointing out strategies to address them.

Student Performance Criterion addressed:
Not Applicable.

Topical Outline:
Presentation skills (40%)
Research (30%)
Drawing and other representational techniques (30%)

Prerequisites:
ARCH 411, Housing & Settlements.

Textbooks/Learning Resources:
Sue McGlynn, Graham Smith, Alan Alcock, Paul Murrain, Ian Bentley (1985); Responsive Environments, Routledge.

Offered (semester and year):
Spring only; annually

Faculty assigned:
Dr. Mohamed Al Hefnawi (Associate Professor)
Lect. Abdulkader Alswidan

Number & Title of Course:
ARCH 421, History& Theory III, 3 credits

Course Description
The evolution of Islamic Architecture, from the Umayyad Caliphate through major dynasties will be discussed. Emphasis will be given to the unity of Islamic architecture among regional diversity from Spain to Indonesia. Discussion will also cover works of modern masters, e.g. Hasan Fathy, Wakil, Badran in terms of Islamic context and modern influences.

Course Goals & Objectives:

- Provide students a basic understanding of Islamic Architectural concepts and elements.
- Examine the unique features of Islamic architecture in comparison with architecture of other civilizations.
- Explore and analyze master buildings of different Islamic regions and eras.
- Discuss different architectural concepts in relation to different civilizations and periods.
- Compare Islamic Architecture with contemporary architecture in the Muslim world.

Student Performance Criterion addressed:
A.7 History and Global Culture

Topical Outline:
Assignment 1 (Individual) 30%
Assignment 2 (2 Students) 15%
Assignment 3 (2-3 Students) 15%
Term Project (whole Class) 15%
Final Exam. 25%

Prerequisites:
ARCH 332, History & Theory II

Textbooks/Learning Resources:
Moffett, M. Et al, *A World History of Architecture*, Laurence King Publishing, London, 2003.
Hoag, J. D. (1987). Islamic Architecture (History of World Architecture) (2nd US ed.). Electa / Rizzoli.
Hillenbrand, R. (1998). Islamic Art and Architecture (The World of Art) (The World of Art ed.). Thames & Hudson.
Akbar, J. (1988). Crisis in the Built Environment: The Case of the Muslim City. Brill Academic Pub.

Offered (semester and year):
Fall only; annually

Faculty assigned:
Prof. Mashary Al-Naim
Lect. Ahmed Aldossary
Lect. Ahmed Abdelaal
Lect. Hamad Abdulrazzaq

Number & Title of Course:
ARCH 422, Humanities II (Economics and Architecture), 3 credits.

Course Description:
The course discusses the relationship between economics and architecture. It begins with a general introduction to principles of economics. And the principles that govern financial transactions, activities, production, markets, supply, and demand. It illustrates the characteristics of the modern economy. Then the course compares the impact of different forms of economic systems such as Islamic, socialist, capitalist, and new capitalist system on architecture. And its impact on architecture in terms of form, function, order, aesthetics, life cycle, social, environmental, and economic features, as well as the effect of architecture on the economy.

Course Goals & Objectives:
- Provide the student with a basic of understanding of the relationship between economy and architecture.
- Introduce fundamental theories of economics.
- Discuss the impact of economics on urban settlements and architecture.
- Highlight differences of capitalist world economy with Islamic Sharia and the impact on urban settlements, city social structure and architecture.

Topical Outline:
Understanding to accepted skills of the relationship between economy and architecture 40 %.
Discuss the impact of economics on urban settlements and architecture 40 %.
Providing students with the skills of the labor market requirements 20 %.

Prerequisites:
ARCH 352, Humanities I.

Student Performance Criterion addressed:
Not Applicable.

Textbooks/Learning Resources:
Marron, Donald. "30-SECOND ECONOMICS", Icon Books Ltd, UK, 2011.
Frank, Robert H."The Economic Naturalist". Virgin Books, UK, 2008.
Alderton, Alain."Economics". Causeway Press. UK. 2006.
Krugmam, Paul e Wells,Robin. " Economics". Worth Publishers. UK. 2009

Offered (semester and year):
Spring only; annually.

Faculty assigned:
Dr. Mohamad Jalal Istanbouli.
Arch. Abdullah Alansari.

Number & Title of Course:
ARCH 431, Contract Documents & Working Drawings, 3 credits.

Course Description:
It introduces the basic concepts and terms of contract documents and its relation with the construction process and the building law. In Addition, it introduces concepts and methods of preparing technical working documents for buildings.

Course Goals & Objectives:

- Expose the students to the components that comprise contract documents (contract forms and working drawings).
- Enable students to understand the basic concept of standard contract forms.
- Enable students to understand the fundamentals of standard working drawings.
- Expose students to the way of making outline specifications and how it can be incorporated into working drawings.

Student Performance Criterion addressed:
B.4 Technical Documentation.
D.4 Legal Responsibilities.

Topical Outline:
Contract Documents (50%).
Working Drawings (50%).

Prerequisites:
ARCH 321, Construction Systems and Assemblage.

Textbooks/Learning Resources:
Jaeger, Axel-Volkmar, Hök, Götz-Sebastian. 2009. FIDIC - A Guide for Practitioners.
FIDIC. 2005. FIDIC Conditions of Contract for Construction of Building and Engineering Works designed by the Employer (Red Book).
E. Corbett 2005. FIDIC: The Short Form of Contract.
The building laws, the Ministry of Municipalities and Rural Affairs, http://www.momra.gov.sa Keith Styles& Andrew Richard. October 2004. Working Drawings Handbook. Architectural Press.

Offered (semester and year):
Fall only; annually.

Faculty assigned:
Abed El Mosallam.
Mohamed Fakhry.
Islam Mostafa.

Number & Title of Course:
ARCH 442, Project Management, 3 credits

Course Description:
It serves three purposes. First: introducing management principles and theory and addressing the basic nature of managing projects. Second: introducing the characteristics, techniques and issues associated with initiating, planning, executing, terminating and operating/maintaining design and construction projects. Third: developing awareness about project management to help future project managers

Course Goals & Objectives:

- Introducing management principles and theory and addressing the basic nature of managing projects.
- Introducing the characteristics, techniques (such as WBS, bar-charts and networks scheduling) and issues (such as project delivery systems, quality control and assurance, project funding and cash flow) related to the design and construction of the projects.
- Develop awareness about project management to help develop future project managers

Student Performance Criterion addressed:
B.10 Financial Considerations
D.2 Project Management

Topical Outline:
Project management principles and theory 20 %.
Project delivery methods and management techniques 20 %.
Knowledge areas of management including time, cost, quality, communication, resource, risk, team work and leadership 60 %.

Prerequisites:
ARCH 431, Contract Documents and Working Drawings.

Textbooks/Learning Resources:
A Guide to The Project Management Body Of Knowledge (PMBOK Guide), PMI
Gholman, Bassam, Project Management for Construction Project , A short course materials, Saudi Society of Civil Engineering. 2013
Introduction to Building Management, By: Calvert, Robert Emest
Internet web-sites

Offered (semester and year):
Spring only; annually

Faculty assigned:
Dr. Abed Almusallam
Lect. Turki Althaqib
Lect. Abdulkader Alswidan

Number & Title of Course:
ARCH 501, Design IX, 6 credits.

Course Description:
Specific complex architectural problems will be explored with an emphasis upon institutional planning and criteria for large-scale institutional systems. Appropriate programming techniques will be investigated based on analysis of needs and aspirations of clients and users.

Course Goals & Objectives:
To advance, evolve, and test previous students' skills and experiences through a major project adequate in design depth and complexity considering practicality and time limitations. The final design project should prepare student to undertake his senior project. The course goals are;

- Review similar projects to broaden the scope of possible solutions.
- Develop a sound program that satisfies client's needs and users' aspirations.
- Analyze the selected site/s to the level required to initiate design.
- Initiate a conceptual design based on functionality as well as spatial, structural, formal and other criteria to be full filled on client's and users' priorities.
- Develop and mature up the designs with ideas and details to optimize the final solution.
- Prepare and present adequately the design process and the justification of design decisions at all phases of the process.

Student Performance Criterion addressed:
A.1 Professional Communication Skills
C.3 Integrative Design

Topical Outline:

Pre-design studies phase	10%
Schematic phases	45%
Technical phase	15%
Final submission	35%

Prerequisites:
ARCH 402, Design VIII.

Textbooks/Learning Resources:
Not applicable.

Offered (semester and year):
Fall only; annually.

Faculty assigned:
Dr. Abdulrahman Alshaikh (Coordinator), Dr. Mohammed Fakhry, Lect. Ahmed Abdelaal, Lect. Ahmed Aldosary, Lect.Yousif Alsaeed, Lect. Hamad Alabdulrazzaq, Lect. Fahad Alshiddi and Arch. Abdullah Alansari.

Number & Title of Course:
ARCH 502, Design X, 6 credits hours.

Course Description:
The comprehensive final project is based on the cumulative knowledge and skills developed in all the previous design studios, course work and professional experience. The coursework is independent study based on an extensive programming document of a well-defined statement which clearly establishes the total scope of the comprehensive project; the final project is defined as an architectural problem of advanced complexity which merits the full consideration of all previous coursework and professional experience. It must address the resolution of an architectural idea which can be developed and tested for its validity through the process of design. The student is accountable for all the previous theoretical, technical and supporting coursework in the synthesis of the many components of the design solution.

Course Goals & Objectives:
To advance, evolve, and test previous students' skills and experiences through a major project adequate in design depth and complexity considering practicality and time limitations. The final design project should prepare student to undertake his senior project. The course goals are:

- Review similar projects to broaden the scope of possible solutions.
- Prepare a comprehensive program for an architecture project that includes an assessment of client and user needs.
- A review of the relevant building codes and standards relevant sustainability requirements.
- Analyse the selected site/s to the level required to initiate design. And an assessment of their implications for the project and a definition of site selection and design assessment criteria.
- Initiate a conceptual design based on functionality as well as spatial, structural, formal and other criteria.
- Present adequately the design process and the justification of design decisions at all phases of the process.
- Present the Develop of the designs with ideas and details to optimize the final solution, this demonstration includes problem identification, setting evaluative criteria, analysing solutions.

Student Performance Criterion addressed (SPC):
B1. Pre-Design.
C.2 Integrated Evaluations and Decision-Making Design Process.

Topical Outline:
Pre-design studies Phase 10%
Schematic phases 45%
Technical phase 15%
Final submission 35%

Prerequisites:
ARCH501, Design IX & ARCH511, Research and Programming

Textbooks/Learning Resources:
Not applicable

Offered (semester and year):
Spring only; annually

Faculty assigned:
Dr. Abdulrahman Alshaikh (Coordinator), Dr. Mohammed Fakhry, Lect. Ahmed Abdelaal, Lect. Ahmed Aldosary, Lect. Yousif Alsaeed, Lect. Hamad Alabdulrazzaq, Lect. Abdulkader Alswidan, Lect. Fahad Alshiddi, Lect. Meshari Albaqmi, and Arch. Abdullah Alansari.

Number & Title of Course:
ARCH 511, Research and Programming, 3 credits

Course Description:
This course, integral part of the final project program, emphasizes the identification and development of architectural ideas and concepts, which are to be researched, analyzed, programmed and documented in an efficient and professional report, independently researched under the direction of a faculty advisor.

Course Goals & Objectives:

- Develop students' ability to search, analyze and write the report.
- Provide a comprehensive program suitable to start the design of the project next semester.
- Enable the student to understand the various design parameters of their senior project.

Student Performance Criterion addressed:
B.1 Predesign
C.1 Research

Topical Outline:
Approval of project selection 15%.
1st Chapter: Introduction project definition 15%.
2nd Chapter: Case study analysis 15%.
3rd Chapter: Preparation of program 15%.
4th Chapter: Site selection 15%.
Writing the research draft 10%.
Finalizing the research and present it for discussion 15%.

Prerequisites:
ARCH 402, Design VIII.

Textbooks/Learning Resources:
Watson, D. (2004). Time-saver standards for Architectural Design.
Neufert, E., Neufert, P., Baiche, B., & Walliman, N. S. (2000). Architects' data/Ernst and Peter Neufert.
White, E. T. (1983). Site analysis: Diagramming information for architectural design. Architectural Media.

Offered (semester and year):
Fall only; annually.

Faculty assigned:
Dr. Abdulrahman Alshaikh.
Dr. Mohammed Hapallas.
Dr. Mohammed Almahmood.
Dr. Wadee A. Algehlani.
Dr. Ayman H. A. Alsayed.
Lect. Ahmed Aldossary.
Lect. Ahmed Abdelaal.
Lect. Yousif Alsaeed.
Lect. Fahad Alshiddi.
Lect. Hamad Alabdulrazzaq.
Lect. Turki Althaqib.

Number & Title of Course:
ARCH 512, Professional Practice, 3 credits

Course Description:
The course has been designed to enable students to develop their knowledge, understanding, ability, and skills of the professional practice and management of architecture. Students will be able to develop a comprehensive understanding of their obligations and responsibilities as a professional to clients, the profession, and society at large.

Course Goals & Objectives:

- Describe and analysis the professional framework in which architecture is practiced.
- Demonstrate and apply an awareness of the legal, regulatory frameworks and the economic context of architectural practice.
- Assist in the planning, management and operation of a design practice with respect to professional responsibility, awareness of risk and sound business principles and practices, applying basic knowledge of commercial and tax laws and regulations.
- Summarize, compare and advise on the appropriate selection of a range of typical construction contracts used in Saudi Arabia.

Student Performance Criterion addressed:
D.1 Stakeholder Roles in Architecture
D.3 Business Practices
D.5 Professional Conduct

Prerequisites:
Arch 412, Issues in Urban Design

Textbooks/Learning Resources:
Architect's Handbook of Professional Practice, the American Institute of Architects.
E. Corbett (2005). FIDIC: The short term of contracts.
Clough, R., Sears, G., Sears, K., Segner, R., and Rounds, J. (2015). Construction Contracting, eighth Ed. New York, John Wiley & Sons.

Offered (semester and year):
Spring only; annually

Faculty assigned:
Professor Abdulsalam Alsudairi
Lect. Hamad Alabdulrazzaq
Lect. Omar Busbait
Lect. Turki Althaqib

Number & Title of Course:
ARCH 521, Contemporary Issues in Architecture, 3 credits

Course Description:
The course reviews the continual discourse on contemporary issues of architecture and urbanism, verify the research on the topic and its impacts. Research on the topics of Sustainability, Minimalism, and Deconstruction architecture; as well as urban topics of New Urbanism, Humanization of Cities, Urban and City Identity

Course Goals & Objectives:

- To make students aware of the latest developments and debates in contemporary architecture and urbanism.
- To engage students in group discussions and independent study investigations will center on these crucial issues in contemporary architecture and urbanism as well as their implications for future development.

Student Performance Criterion addressed:
Not Applicable.

Topical Outline:
Presentation skills (40%)
Research (60%)

Prerequisites:
ARCH 421, History& Theory III

Textbooks/Learning Resources:
Cities for People (2010), Jan Gehl
The social life of small urban spaces (1980), William H. Whyte

Offered (semester and year):
Fall only; annually

Faculty assigned:
Dr. Mohamed Almahmood
Dr. Mohamed Al Hefnawi

ELECTIVE COURSES:

Current elective courses are included in the following pages. Electives are organized into several groupings:

- HISTORY, THEORY & CRITICISM
- ARCHITECTURAL TECHNOLOGY
- CONSERVATION

The following course descriptions follow this organization.

Number & Title of Course:
ARCH 550, Architecture & Urban Future, 3 credits

Course Description
The course aims to provide an understanding of development theories and the new trends circumstances in architecture and urban which they evolved. It traces the future path of urbanization and architecture as a process and examines the spatial correspondence between urban patterns through space and time and connected development paradigms focusing on kingdom of Saudi Arabia vision 2030 and new trends in urbanization and architecture which reflecting on human behaviour and 2030 vision. An emphasis is placed upon architectural trends and urbanization with specific focus on the relationship and relevance to Saudi Arabian context

Course Goals & Objectives:

- Learn about the Regional Transformation in urban and Architecture in the era of 2030 vision.
- Study the reflecting of this trends in the human behaviour of the users.
- Understand the concept of humanism and its relation between architecture & urban trends.

Student Performance Criterion addressed (list number and title):
Not Applicable

Topical Outline:
Assignments/Presentations %40
Attendance and Participation %10
Term project%50

Prerequisites:
None

Textbooks/Learning Resources:
THE IMAGE OF THE CITY, Kevin Lynch , 1960
Foundations of Landscape Architecture, Norman K. Booth, 2012.
Rossi, Aldo. "The Architecture of the City, 1966, trans. Diane Ghirardo and Joan Ockman." (1982).
Articles on the related topics published on latest local and international journals and magazines available in the library.
https://vision2030.gov.sa/ar/programs/QoL https://rekabentukbandar.wordpress.com/2008/07/08/lecture-1-week-1/2

Offered (semester and year):
Fall only; annually

Faculty assigned:
Lect. Islam Mostafa

Number & Title of Course:
ARCH 551, Housing I (Appropriate Technologies), 3 credits

Course Description:
Study of vernacular and contemporary building materials and methods. Comparative studies of built projects; high rise vs. low rise building techniques; pros and cons of industrialized systems and mass production of house.

Course Goals & Objectives:

- Understanding the basics of building materials,
- Understanding the basics of building technologies,
- Comparing high rise vs. low rise building techniques,
- Understanding the pros and cons of industrialized systems and mass production of house.
- Applying the housing project design and planning skills on Samaya Housing project competition. (this objective is a special one for this term)

Student Performance Criterion addressed:
Not Applicable

Topical Outline:
Notice: (All course subjects are not separate subject but studied collectively within National Architectural Competition for Samaya Housing project Suburb). This objective is a special one for this term.

- Understanding the basics of building materials. (Included in the last subject),
- Understanding the basics of building technologies. (Included in the last subject),
- Comparing high rise vs. low rise building techniques. (Included in the last subject),
- Understanding the pros and cons of industrialized systems and mass production of house. (Included in the last subject)
- Applying the housing project design and planning skills on Samaya Housing project competition. (100%),

Prerequisites:
None

Textbooks/Learning Resources:
Course Recommended Books:
Course lectures
Course References:
Constructing Architecture Materials, Processes, Structures by Andrea Deplazes, G. H. S Materials for Architects and Builders Fifth Edition By Arthur Lyons

Offered (semester and year):
Any semester; Elective

Faculty assigned:
Dr. Aymen Hashem A. Alsayed, Lect. Islam Mostafa, & Lect Ahmed Hassan

Number & Title of Course:
ARCH 560, Contemporary Arab Islamic Architecture, 3 credits

Course Description:
Critical study of recent architectural planning phenomenon in the context of tradition and the essence of Islamic architecture: problems; potential; and imperative of technology, economic growth and accelerated development

Course Goals & Objectives:

- Assessing the reality of contemporary Arab and Islamic architecture and its problems, to identify the causes of the problem of identity in contemporary Arab architectural production.
- To study contemporary Arab architectural trends and the architectural thought upon which each of these trends is built by analyzing their perception of heritage and modernity to understand the variables in Arab-Islamic architecture.
- Identify some of the pioneers of contemporary Arab-Islamic architecture and analyze a few their works that absorbed contemporary Arab-Islamic architectural thought.
- Trying to reach conclusions and recommendations that help lay the foundations for the future vision of building the Arab-Islamic identity in contemporary Arab-Islamic architecture.
- Link understanding of architecture to historical episodes.

Student Performance Criterion addressed:
Not Applicable

Topical Outline:
Attendance & weekly performance 10%
Quizzes 20 %
Cooperative Learning Exercises 30 %
Research Project40 %

Prerequisites:
None

Textbooks/Learning Resources:
Powell, Robert. 1983. “Exploring Architecture in Islamic Cultures I Architecture and Identity”. The Aga Khan Award for Architecture, Singapore. 105 p.

Offered (semester and year):
Fall only; annually

Faculty assigned:
Mohamad Jalal Istanbouli

Number & Title of Course:
ARCH 561, Indigenous Architecture in Saudi Arabia, 3 credits

Course Description:
Study of indigenous buildings and settlements with the aim of identifying their formative forces and influences. Particular emphasis on case studies in Saudi Arabia, field trips, building measurements and recordings.

Course Goals & Objectives:

- Introduce the students to the discipline of traditional architecture issues, including highlighting its relationship to architecture and planning in Saudi Arabia.
- Discuss the different elements used in the design of traditional buildings and spaces, the factors that shape the form of the traditional buildings and settlements and the process of designing these spaces.
- Identifying the socio-cultural influences and the generating process behind the evolution of archetypes in various regions of Saudi Arabia.
- Highlight contemporary problems of modern architecture in Saudi Arabia attempting to incorporate indigenous process into the design on new buildings and settlements.

Student Performance Criterion addressed:
Not Applicable

Topical Outline:
Presentation skills (20%)
Measurements and recording (60%)
Drawing and other representational techniques (20%)

Prerequisites:
None

Textbooks/Learning Resources:
Managing Cultural World Heritage - World Heritage Resource Manual (Arabic Edition). UNESCO, 2014

Offered (semester and year):
Spring only; annually

Faculty assigned:
Mohamed Alhefnawi (Associate Professor)

Number & Title of Course (total credits awarded):
ARCH 564, Housing II (Management Strategies), 3 credits

Course Description:
Management process including planning, design decisions, implementations and maintenance steps. Emphasis on project life cycle (capital and current costs, payments and interests); Oil Economy context and its impact on Housing in the Gulf area; Urban planning and its recommended housing types including public and private varieties; Analysing of urban land uses in KSA; Technical principles of selecting the locations of housing projects;

Course Goals & Objectives:
- Understanding the basics of Housing Management Strategies:
- Understanding the role of public authorities and housing developers in managing housing strategies
- Analysing examples of the roles of public authorities and housing developers in managing housing strategies (Student research works)

Student Performance Criterion addressed:
Not Applicable

Topical Outline:
- Housing Management: Basics (75%)
- The role of public authority in housing management for public interest and the role of housing provider in housing management at project level (12.5%)
- Discussing Students works on Analyzing housing strategic management at national level and/ or at housing provider level. E.g. Housing profile in KSA and the role of public authorities, examples of different housing projects (12.5%)

Prerequisites:
None

Textbooks/Learning Resources:
Peter King, (2016),The Principles of Housing, Routledge.
Ahmed Munir Suleiman (1996) "Housing and Sustainable Development in Developing Countries: Housing for Egypt's Urban Poor", Dar Arrateb Ajameya, Beirut, Lebanon.
Aymen, Alsayed, **(2004)** "Land Management for New Low Cost Housing Construction, A Systematic Approach and a Proposed Evaluation Methodology Applied to Egypt Case" PhD dissertation, Unpublished, Faculty of Architecture at Warsaw University of Technology, Warsaw.

Offered (semester and year):
Fall only; annually

Faculty assigned:
Dr. Aymen Hashem A. Alsayed (Course coordinator); Fahad Abdullah Alshiddi

Number & Title of Course:
ARCH 572**,** lightweight Architecture (Elective Course), 3 credits

Course Description:
It aims to understand the intimate relationship of a geometrical system and a force system within a structure, conventional & unconventional building materials and principles of lightweight. The class will produce a documentation of the student's experiments.

Course Goals & Objectives:

- To develop student's design skills in regards to form, function, structure, material and construction
- To promote student's knowledge of different types and solution of light weight construction, and unconventional building materials.
- To increase student's awareness of structural solutions. To establish a direct link between design and construction.
- To develop student's skills in regards of making structure experiments.

Student Performance Criterion addressed:
Not Applicable

Topical Outline:
Submit reports about light weight construction and unconventional materials. (60%)
Making structure experiments (40%)

Prerequisites:
None

Textbook/ Learning Resources:
Ambasz, Emilio,Shigeru Ban, Princeton Architectural Press, London, 2000
Engel, Heinrich, Structure Systems, Deutsch Verlags- Anstalt, Stuttgart, 2000
Kronenburg, Robert, Portable Architecture, Architectural press Oxford, UK, 2003
Otto,Frei, Lightweight Architecture - Of nature imprisoned, Institute for light construction – Stuttgart University, 1999

Offered (semester and year):
Spring only; annually

Faculty assigned:
Dr. Hazem Afify

Number & Title of Course:
ARCH 581, Conservation of Buildings, 3 credits

Course Description:
The course presents an introduction of some main definitions of heritage, history of conservation, Approaches and principles in conservation, the International evolution towards the protection of cultural heritage. The course analyses the behaviour structures and materials of heritage, their features and causes of decay and all kinds of interventions.

Course Goals & Objectives:

- The base configuration of the theory and historical restoration and preservation at the student.
- To enable students to identify the values and significance of the cultural heritage, the history, concepts, and principles of conservation through periods, by which the question “Why do we need conservation?” could be answered
- Find the student's learning process to study the historical, architectural and construction of old buildings. Students know the old traditional construction materials, especially used in the Kingdom of Saudi Arabia, and how to deal with it.
- Read and analyse the phenomena Deterioration of ancient buildings and archaeological sites.
- Student learning diaper types of intervention by international conventions and Arab communities.

Student Performance Criterion addressed:
Not Applicable

Topical Outline:
Learn the concepts of cultural heritage and the vocabulary of the conservation and restoration process. 40%
Knowing how to deal with historical sites, landmarks, and traditional building materials. 30%
Intellectual skills: the ability to apply acquired knowledge.30%
Total 100%

Prerequisites:
None

Textbooks/Learning Resources:
Bernard M. Feilden, "Conservation of Historic Buildings", Avon, Great Britain, 1994.
Giorgio Torraca, "Porous Buildings Materials", ICCROM, 1988..
John Ashurst and Francis G Dimes, "Conservation of Building & Decorative stone", Oxford 2001.
C. A. Price, "Stone Conservation", The Getty Conservation Institute, 1996.

Offered (Semester and year):
Spring only; annually

Faculty assigned:
Mohamad Jalal Istanbouli

Number & Title of Course:
ARCH 582, Special Topics of Conservation, 3 credits

Course Description:
This course understanding a basic of criteria for identifying heritage, elements of the conservation process, approaches, techniques and materials. Concepts of change and growth are examined through the morphological evolution of personal and public spaces as a result of changing patterns of human activity and association. Economic and demographic patterns of use are explored as to their impact on Re-employment and rehabilitation. The course explores the idea of new uses for old buildings by studying some examples of the existing old structures in term of their physical, historical and socio-cultural aspects and to develop a logical process and a recognized sequence of decision-making.

Course Goals & Objectives:

- Teaching student how to study the heritage buildings and sites in order to determine their value, classifications and conditions using scientific standards, and teaching student the methods and means of heritage buildings and sites conservation and maintenance (such as: restoration, rehabilitation and use, consolidation and strengthening, completion, renewal and modernization and upgrading, reconstruction… etc.).
- •Teaching student methods of presenting and demonstrating the heritage buildings and sites, and their redeployment, and teaching student how to do decision-making in the type and method of intervention in conservation due to their condition and value according to local, Arabic and International charters, and teaching students how to recognize the used traditional building materials in the heritage buildings and how to deal with them as an identity for the zone environment and sustainability of its buildings.
- Translate theory into practical project through the study of ancient buildings and sites, the existing process to develop a logical and systematic sequence in decision-making.

Student Performance Criterion addressed (list number and title):
Not Applicable

Topical Outline:
Learn the concepts of cultural heritage and the vocabulary of the conservation and restoration process 40%
Knowing how to deal with historical sites, landmarks, and traditional building materials 30%.
Intellectual skills: the ability to apply acquired knowledge 30%.

Prerequisites:
None

Textbooks/Learning Resources:
Bernard M. Feilden, "Conservation of Historic Buildings", Avon, Great Britain, 1994.
Giorgio Torraca, "Porous Buildings Materials", ICCROM, 1988..
John Ashurst and Francis G Dimes,Conservation of Building & Decorative stone,Oxf. 2001. **Offered:** spring only; annually

Offered (semester and year):
Spring only; annually

Faculty assigned:
Dr. Wadee Ahmed Ghanem Algehlani