

Better Education
Better **World**

Department
of
Architecture



Undergraduate & Graduate
PROSPECTUS
National University - Sudan
5TH EDITION JULY 2024 - JUNE 2028

NU.EDU.SD



National University - Sudan

Welcome

Welcome

Note from The President of NUSU

[www.nu.edu.sd]

01



This is the 5th Edition of the PROSPECTUS of the National University-Sudan (NUSU). In this document registered students will find information about the mission, vision and values of NUSU, and all programme details and activities. This edition includes both UNDERGRADUATE and GRADUATE course outlines. NUSU aims at high-class education in medical, technological and social sciences. This is reflected in this comprehensive outline. It describes the basis of NUSU's educational philosophies, programme objectives including the characteristics of the graduate, strategies and methods, degree structure, semester duration and credit hour load and brief outline of content. This represent a narrow window into the complex organization of NUSU. More information on rationale of modules, behavioural objectives, and assessment can be found in the curriculum of each Faculty. The calendars, year plans and timetables are issued for each semester with the exact dates for teaching sessions, other learning opportunities, assessment, feedback and holidays.

NUSU is now 19 years old. It is still developing, and trying to set traditions of availing all activities in its publications, that may remain relevant for 3-4 years, before new editions are issued. The councils and committees of NUSU, while compiling this, are drawing their experience from local and world-wide, up-to-date educational practices. Concurrently, other documents (Student

Manual, Staff Handbook, Induction packages, and policies and procedures) are re-written and updated, in view of the emerging concerns about student welfare, environment, students with special needs, and virtual online educational resources.

There is strong focus on synergy between modern education, developmental needs and employment market requirements. This has laid down a wide area of maneuvers in the choice of specific disciplines and modules. In each discipline, a detailed career advice has been added in this edition to show students the opportunities available if they chose to be employed or opt to start their own business to employ others.

The reputability of NUSU has attracted students from about 25 countries and all continents. This representation requires quality of premises and services, as well as understanding of diversity, inclusiveness and considerations for non-discrimination in the educational activities and campus life. International students and the Sudanese students whose families are living outside the Sudan, receive special induction, supervision and directives by the Deanship of Student Affairs, and regular courses shown in this prospectus as Sudanese Studies.

It is my pleasure to invite all qualified students to join NUSU's exciting new and innovative educational programmes. Students, parents and sponsors are welcome to visit the campus. They will receive guidance from the HELP DESK at the Main Gate. They will be escorted to buildings and connected with the leadership of the university or faculties. Our primary target is to create guest satisfaction. Your comments and feedback are important for us, to continue improvement to meet our goals.

Last, but not least, we would like to invite our higher education colleagues, inside and outside the Sudan, to read this publication. Our special request: please have a critical look at this and show us our faults. You may suggest means of correcting them, and tell others about the positive and bright spots of this attempt. Your advice will be highly appreciated.

Prof. Qurashi M. Ali PhD, MD, FRCPE
President, National University, Sudan

www.nu.edu.sd

ACKNOWLEDGEMENTS

02

World-wide, the overall innovations and their modifications stem out from the efforts of Professor Bashir Hamad. Every page of our documents could not be finalized, or brought to fruition, without his fatherly approval and comments or traces of his educational spirit. His direct and indirect contributions to the curriculum of this University and continuous encouragement are gratefully acknowledged, particularly those related to educational strategies, instruction and evaluation. The following have reviewed and reorganized the final versions of this prospectus: Prof. A/Rahman Eltom MD,PhD, Prof. A Rahman Biri MD FRCP, Prof. Elthami Abdul Mageed PhD, (medicine), Hassan M. Ali PhD, Dr. Ahmed Abusham PhD and Dr. Salah Ibrahim PhD, and Dr. Fatma Mukhtar MSc. (pharmacy), Dr. Kamal Khalil MD.Dr. Elfatih A Mageed MD (physiotherapy), Dr. M. A. Siddiq PhD. Prof. Awad Haj Ali PhD. (computer and health informatics program), Prof. Ibrahim Ghandor and Dr. Abdalla Darous, Dr. Enas Badawi PhD, Dr. Arif Affan (dentistry), Prof. Sayda H. Elsafi MD, PhD and Dr. Nihal Mirza MD, Dr. M. Sirelkhatim, Dr. M. Abdelgadir, Dr. Maha Magoub (medical laboratory sciences), Dr.Abdel Moneim Saeed PhD, Dr. M. A. Elsheikh PhD Dr. Elsir Ali Saeed PhD, Dr. M. Elfadil PhD (imaging technology), Prof. Awatif Ahmed PhD, and Ms. Fatma Bhruddin MSc, Dr. Sumia Ibrahim PhD (nursing and midwifery), Prof. Salih Faghiri PhD, Prof. Omer Elmagli PhD, and Prof. Hassan Kamal PhD, Dr. M. A. Osman, Dr. Mutaz Suliman, Dr. A Azim Almahal PhD, and Prof. A Gadir M. Ahmed PhD (management sciences). The contributions of Dr. Nadir Hasanain {Engineering} , Prof. A Latif Elboni and Dr. Ibrahim Mirghani (International Relations) are outstanding.The list, of those who, knowingly or unknowingly, contributed curricular details or ideas registered in Editor's memory or documents, is exhaustive. Our thanks are to the following professors: A/Hameed Lutfi, M.Y. Sukkar, Elbagir Ali El Faki, Amir El Mubarak, Omar Abdul Aziz, Othman Taha, Othman Khalafalla, Ali Habbour, Omar A. Mirghani, Awadseed Mustafa, Mubarak Majzoub, M. Awadalla Salih, Hafiz El Shazali, Jaafar M. Malik, Othman Hamour, Ali Karar, A/Alla A/Wahid, El Tayeb Abdul Rahman, Eisa Othman El Amin, Mamoun Homeida, Hassan M. Ahmed, Ali Abdul Rahman Barri, Ibrahim M. A/Rahim, Ahmed A. Muhamadani, Mukhtar El-Khatim, A/Rahman A/Hafeez, Sayed M. Ahmed, Awad A/Rahman El-Awad, M. Elamin El-Sharif, Kamal Zaki, A/Rahman El-Tom, Ghazi Salahuddin, Bakri Osman Saeed, Molyddin Majzoub, Jamal Suleiman, Abbas ElKarib, ElGamri ElRadi, Salah M. Omer, Majid Mustafa, Muzamil Hassan A/Qadir, M. A/Rahim A/AAI, Khalid Musa, Bakri Musa Abdul Karim, Tahir Othman Ali, Omar Siddiq, Fathel Rahman Ahmed Ali, A.Moneim Sahal, Omar Habbal, Mickell Seefldt, Ara Tekian, Margaret Uguroglu, Saleh A. Al Damegh, Zeinel Abdeen Karar, A/Rahman El-

tom, Ahmed Fahal, Kamal Qurashi, Ammar Khamis, Elamin I. Eneima, Elsheikh A Elobeid, Sara M. Husein, Abubakr Suliman, Elfatih A/Majeed, Mabyua Mustafa, Mustafa Idris, Amin O Sidahmed, Ammar Eltahir, Mr. Suleiman M. Dafa'Alla, Salah Faraj, and many more, we will add them as soon as we are reminded. There is no intention of omission of any effort or opinion.

Most of the "Dentistry Curriculum" has been adapted, with permission, from experts all over the world, mainly deans and heads of departments in the Sudanese dental colleges, and institution in dental sciences. The outstanding effort of professors Ibrahim Ghandour, Yahya Eltayeb, Ibrahim Elkamil, Osman Elgindi, Ahmed Suliman, Abbas Ghariballa, Nadia A. Yahia, Elnur Ibrahim and improved by Enas Badawi, Eman Khair and Suha A/Gadir is gratefully acknowledged.

The Engineering curriculum has been designed by committees headed by Dr. Nadir Hasanain as dean and head of civil department, and valuable contributions by Prof. Seifeldin Sadig. The International Relations and diplomatic studies curriculum has been written first by Dr. Ibrahim Mirghani and has been edited and adapted to the national requirements by Prof. A Latif Al-bouni and Bakri A/Karim.

The whole idea could not have seen the light without the encouragement of the Investors' Corporation and Board of Trustees of the National University, who spend days every week responding to routine and emerging issues of financing. On their behalf I would like to thank the genius and friendly contribution of Mr. Zahir Twahry for his artistic preparation of the 3rd and 4th editions and other NUSU publications. The final editing of most of the undergraduate manuscript has been skillfully and patiently carried out by Prof. A Rahman Osman Beerri Former Secretary of Academic Affairs. The graduate prospectus has been compiled by Prof. M. M. A. Abulnur, Dean of Graduate Studies and Scientific Research, and Dr. M. Abd Al Kader and Dr. Hatem Al Rufaai.

WHAT IS THE NATIONAL UNIVERSITY?



1. MISSION, VISION AND VALUES

The **VISION** of the National University is to be a world-class leading provider of private higher education in the Sudan, in the aspects of elegance of environment and structures, excellence of curricula and learning strategies, quality of management systems, commitment of investors and employees to customer satisfaction (students, relatives and regulators), distinguished graduates in academic, general ethical standards, and concern with professionalism and original research production.

The **MISSION** is to: (1) constantly strive to provide efficient and best-in-class professionals, in their specialties (2) meet and exceed our customer needs and expectations, and (3) stay ahead of the competition by creating safe and rewarding workplace facilities and innovating new quality output, services and relationships in transparent, honest and fair business.

The **VALUES** are : (1) obligations to treat the public and one another with personal and professional integrity, consideration and mutual respect, (2) commitment to honesty, truthfulness, respect for human dignity, and professional ethical behaviour, (3) fair treatment of all citizens and employees, with no discrimination on the basis of morphology or ideology (4) promotion of democracy values, hard work, perseverance, commitment to success, accepting responsibility and accountability for one's conduct and obligations, and (5) creating and maintaining a respected reputation and positive image in the community as a trusted partner through excellent care of the individual and family, and responsibility towards the community and environmental problems and concerns.

2. DOCUMENTS

The legal documents of the University include: (1) the University Charter, (2) Academic Regulations (3) Rules of Activity and Conduct (4) Study Fees' Regulations, (5) Employment Regulations, (6) National Employment Penalty Regulations, (7) Contracts and Salary Scale, (8) Job Descriptions, (9) Staff Handbook, (10) Students' Manual, (11) Quality Manual, (12) Teaching, Learning and Assessment Policy, (12) Prospectus and Curricula, (13) Organizational Chart, (14) Committee Structure, (15) Log-books of students' skills and activities, (16) Year Plans, (17) Academic Calendars, (18) Programme Evaluation Forms, (20) Portfolio of Architectural and Structural Designs of Buildings, (21) External Examiners' Appointment, Reporting and Response documents and (22) numerous policies and procedures in areas of quality, safety, and non-discrimination.

3. BOARD OF TRUSTEES

The Board of Trustees (BOT) is formed according to the Charter to include the investors, the academicians, the representative of the Ministry of Higher Education, and public figures of interest in education or eminent in social accountability issues of universities. The current BOT is chaired by Dr. Taha Eltayeb A. Elimam, and includes in its membership: Prof. Qurashi M. Ali, Dr. Amin O. Sidahmed, Dr. M. Sirelkatim Ali, Prof. A-Rahman Osman Beeri, Prof. Osama A-rahman Elamin, Eng. M. Awadelkarim Elgasim, Dr. Saad Subahi, Dr. Elhadi Bakheet, Eng. Yousif A. Yousif, Prof. A-Moneim Algousi, Dr. Ismail Qurashi, Prof. Hassan M. Ali, Deans of faculties, and representatives appointed by the Ministry of Higher Education and approved by the President of the Sudan.

4. RIGHTS

4.1 GENDER RIGHTS

Throughout this manual (and the webpage) every effort has been made to use he/she, his/her, him /her. It may not be possible to assure that this fair use has been consistent. Any such unintended mistake should be taken to mean both sexes. Females have been addressed in situations of special concerns, in gender-specific issues, mainly out of respect for their specialized roles.

4.2 EXCLUSION OF LIABILITY AND DISCLAIMER

Throughout this manual (and the webpage) every effort has been made to ensure that expert, accurate and up-to-date guidance has been included. The administrative and academic authority continuously updates the NUSU data and academic regulations to satisfy the emerging needs, more quickly than publications would reflect. Approved changes are shown at the official notice-boards of the University. Accordingly, neither the Ministry of Higher Education, nor the NUSU administration, shall be liable to any person or entity with respect to any loss or damage caused or alleged to be caused by the information contained or omitted from this manual (or the webpage).

4.3 COPYRIGHTS

- a. The curriculum timetable and course details resemble many of those (or may contain parts) in other colleges in which the "President of NUSU" has been the main or essential member in the bodies responsible for curriculum design and evaluation. In many an institution he has been one of the driving forces for innovation. These institutions include: University of Gezira (Sudan), Sultan Qaboos University (Oman), Omdurman Islamic University, Alzaeim Al-Azhari University, University of Medical Science and Technology, African International University, National Ribat University, Al-Razi University (Sudan), and Al Qassim University (Saudi Arabia). Major innovations have been added to improve on the experience of the above institutions. This manual (and the webpage), in addition to comprehensive compilations in each program document (to be given to each student) is an entity of its own. Therefore, the total set of details, which is not available in any other institution so far, may not be

copied or published without written permission from the National University- Sudan.

- b. The teaching material available in the webpage, and other published material in the University notes, is original and should not be reproduced for commercial use, in any form without written permission of the National University- Sudan. Non-profitable teaching purposes are allowed. Our teachers and colleagues, who are mentioned in the “Acknowledgements”, are free to use this material because it is all from them, we could not single out what is ours from theirs.

5. ENRANCE REQUIREMENTS

- A. Applications must be through the Ministry of Higher Education (Sudan) Admission Directorate, based on passing a fresh Sudan (or equivalent) School Certificate or equivalent qualification (please see relevant booklets provided at that office). Older 5-10 years' School Certificates may be considered, if vacancies are there, and details are approved by the Admission Office. The newly introduced online application dismiss disqualified applicants automatically.
- B. Direct applications are welcome, but will be entered online by the University to the Admission Directorate for approval.
- C. International applications will be processed similarly, but candidates are advised to follow the application procedure in the webpage, and wait for a response, before arriving in the Sudan. The NUSU Administration takes 5 working days (after receipt of application) to finalize acceptance. Electronic communication is preferred. For security reasons. A student who is granted acceptance by the NUSU will NOT be allowed by the Ministry of Internal Affairs to transfer to any other university after arrival, except after studying and passing, at least, one academic year..
- D. Mature students qualified with a previous health science professional degree may be considered. In this case early application is recommended (6 months before national intake in September every year), because of the time it may take for the approval of the School Certificate by Ministries of General Education and Higher Education, Sudan.
- E. Final decision on acceptance depends on the results of an interview to confirm if the student has the aptitude to join a specialty, and is free from physical and psychological inabilities that are not compatible with the responsibilities of a specific or hardship profession. But individuals with special needs are welcome and will find NUSU a conducive environment of values against discrimination.
- F. Transfer NUSU from other universities may be considered for enrollment in Semesters 2, 3, 4 or 5 only, based on the approval of the General Directorate of Admission in the Ministry of Higher Education.

6. STAFF AND RECRUITMENT

Academic and administrative staff interested in joining the National University-Sudan, may show their intention by filling the e-recruitment form included in the webpage. A response will be sent

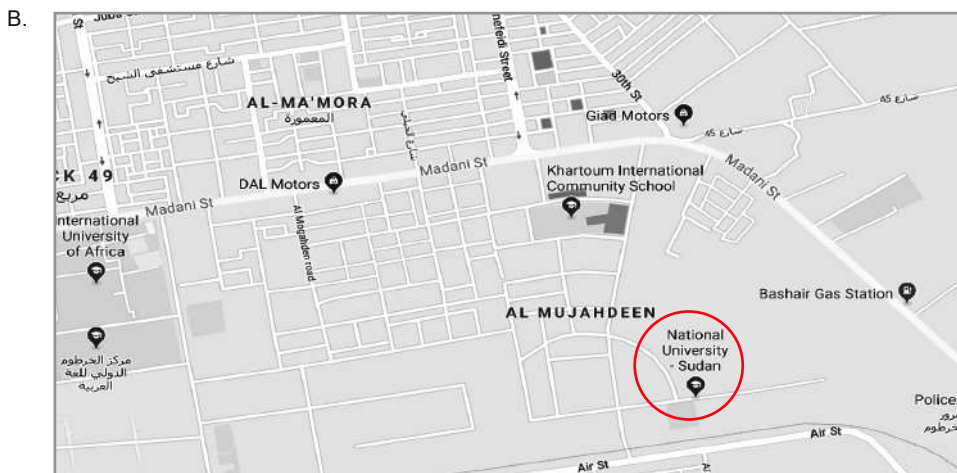
by e-mail within 48 hours, and further instructions will follow. Appointment of academic staff is based on academic excellence in the areas of research and teaching. Academic applicants with no research records or grants will not be considered for full-time positions in this university. Full- and part-time staff list may be looked up in [Academic Staff](#) section of the webpage.

Applicants interested in joining other private educational institutions in the Sudan can reach them through our web-page. The [employment conditions](#) and [salary scale](#) are not (currently) available in this manual or website.

7. LOCATION AND MAPS

A. The Country: The best advantage of this National University is that it is located in the Sudan, an AfroArab country with rich human and natural life resources. The inhabitants are either Arabs or Africans.. The Sudan educational institutions are known, worldwide, for their academic excellence, ethical heritage and professional teaching perfection. A Sudanese national, wherever he/she may be is unique in considerateness, courtesy, and hospitality. In almost 80% of the country it is the safest in the world. A single lady can jog in Khartoum, or any other city, in the middle of the night unbothered. Sudanese abide voluntarily by strong moral codes and respect for females as foreigners. The media-nourished concepts of North-South or West-East conflicts have largely exaggerated the reality. The color of people has no significance in this country, may be the only country in the world where color has never and can never

be a real cause of conflict. Media are prototyping other countries' dilemmas on a local setup that has got some developmental problems. It is interesting that the Arabs in this country are mainly non-white, and the non-Arabs are not necessarily black, contrary to what the media have publicized. The luckiest person in the world, any moment, is the one who has been received by a Sudanese host.



The City: The capital is Khartoum, a city made up of three cities striding the White Nile, Blue Nile as they join to form the River Nile. This has given it unique panoramic landscapes and scenery. There are about 4-6 million inhabitants, mostly in traditional houses, known for their spacious yards. Khartoum city is the official capital crowded with governmental offices, ministries, embassies and international organizations. There are some affluent districts where the price of a house may be as expensive as in New York or Tokyo, and other areas of modest housing. Therefore students have a wide range of choice. Transportation used to be a problem, now it is quite easy, but still, students are advised to find accommodation as near as possible to the University premises.

- C. Premises and Environment : (See map). The National University permanent building is located in the Eastern part of Khartoum called Al Raqi District, near the Khartoum-Medani Highway, in an affluent newly established residential area. This region has an interlacing and frequent network of transport, yet the wide roads give no impression of crowdedness, or noise pollution. This accessibility is an invaluable asset for an educational institution. The University block, a purpose-built structure, assumes a masterpiece of architectural innovation (see pictures). The National University is open for students and staff for 18 hours working days and 6 hours on weekends. The library, self-directed learning facilities are available for registered students and staff. Limited access to research laboratories is allowed for certain students who are involved in staff's research projects. Certain sport facilities (Basket- ball and volleyball) are within the premises. In-door recreational facilities are available in the Cafeteria. The source of proud of the University is the design of beautiful, environment-friendly and heavy duty facilities that serve its mission. Students and employees are expected to respect and work towards achieving that. Directives from them to their visitors are very important to maintain and improve the level of standards of perfection we intend to reach. There are few similar, or near, buildings of excellence of space and quality, so far, in higher education institutions in the Sudan.

A 10-floor building of the teaching hospital stands next the main University block and accommodates over 300 beds with all tertiary care facilities. A 5-floor building accommodate the Faculty of Engineering. NUSU owns a 35000 M2 area in Albagair Suburban Area, in which a new campus is being built. It includes a rural hospital.

8. PROGRAMME FEES

A list of tuition fees is published by the MHESR every year. Private institutions keep updating such list, but a student accepted in one particular academic year will NOT be charged with the fees published for fresh students. Fees cover teaching and administrative activities of the University including laboratories and in-campus training. Accommodation and food subsidies are NOT included. Transportation to and from the University or off-campus training sites is NOT included, but the University tries to provide that for selected activities. Additional fees are variable for compensations of absence or failure. Students pay for all courses Training outside the campus and examinations [substitute or supplementary], scheduled in the Summer or Holidays, based on the credit hour load of the courses. Fees for such compensations are usually not published in Academic Calendar, but requested by students or their sponsors.



VISION AND MISSION

The VISION of the department is to provide Excellence in architectural education and apply contemporary design innovations according to international standards of quality in the field of architecture and building technology. The MISSION is to improve the efficiency and effectiveness of architectural education to provide students with knowledge and experience to enable them to design architectural projects with emphasis on local and regional contemporary architectural styles.

ENTRANCE REQUIREMENTS

A student interested in joining the Faculty of Engineering, has to:

- 1 Obtain pass mark in seven subjects including: Arabic language, religious studies, English language, mathematics, physics, chemistry and computer or engineering sciences. International students who have not studied Arabic and religious studies may have more alternative subjects from an approved list of subjects published in the webpage of Ministry of Higher Education.
- 2 Achieve the percentage in Sudan School Certificate announced every year (International students may have 10% less in the School Certificate scores.
- 3 Apply electronically through the website of the Admission and Accreditation Office, Ministry of Higher Education, or apply directly in Admission Office in the National University, and pass the health examination, aptitude tests and interview at the Faculty of Engineering-.
- 4- Pay the fees announced on the university website.

CAREER ADVICE

Architecture arises from same origins as other universal manifestations of material culture. However, the artifacts designated as architecture possess a scale, permanence and a pervasive influence unique among human endeavors. These qualities give the discipline a cultural prominence that few other professions enjoy. Therefore, the study of architecture is concerned with complex, interdisciplinary issues. Some matters are primarily individual and practical: the basic human need for shelter and the desire to contrive efficient, adequate forms for the patterns of daily life. Architecture also serves a higher purpose, expressing the living values of a culture. It gives form, order and proportion to human activities. The practice of architecture today requires coordinated contributions from a variety of fields. Consequently, the study of architecture at National University, Sudan investigates principles and applications of technology, art, humanities, engineering, physical and social sciences, business and management. The Bachelor of Science degree in Architecture & Building Technology degree is intended for students seeking a professional career in architecture. The curriculum is designed to meet the requirements to prepare the graduate for professional practice. Sudanese and international graduates enjoy the availability of jobs in public and private companies or pursue their own business. They may continue postgraduate education in masters and PhDs to teach in colleges of Architecture.

FACULTY OBJECTIVES :

The objectives of the National University Faculty of Engineering -Architecture and Building Technology (ABT) Department are to :

- 1 Ensure the ability to conceptualize and coordinate designs, addressing social, cultural, environmental and technological aspects of architecture
- 2 Ensure that graduates possess the ability to recognize the dialectic relationship between people and the built environment in the region
- 3 Apply and integrate computer technology in design processes and products
- 4 Utilize cutting edge building technology in design
5. Apply visual and verbal communication skills at various stages of architectural design and project delivery processes
- 6 Analyze critically building designs and conduct post occupancy evaluation studies
- 7 Employ architectural research methods including data collection and analysis to assess and propose improvements in existing built environments
- 8 Work collaboratively with teams of architects and various interdisciplinary design teams involved in the building industry
- 9 Recognize diversity of needs, values, behavioral norms, social patterns as they relate to the creation of the built environment

Curriculum Objectives [Characteristics of the Architecture and Building Technology graduate

A graduate of the National University- ABT curriculum should be able to:

- 1 Conceptualize and coordinate designs that address some of the most salient social, cultural, environmental, theoretical, economic, and technological aspects of architecture.
- 2 Recognize the dialectic relationship between people and the built environment in a region and apply principles of sustainable design.
- 3 Apply and integrate computer technology in design processes, documentation, and products of complete architectural drawings.
- 4 Utilize cutting-edge building technology in design and incorporate life safety systems.
- 5 Build abstract relationships, and to use visual and verbal communication skills throughout the project delivery process.
- 6 Analyze critically building designs, and to comprehend constructability.
- 7 Use a variety of analytical research methods when evaluating the building environment.
- 8 Work collaboratively with various design teams involved in the building industry, and to collaborate and negotiate with clients and consultants.
- 9 Recognize diversity of needs, values, behavioral norms, and social patterns as they relate to the creation of the building environment.
- 10 Get involved with designing new buildings, extensions or alterations to existing buildings, or advising on the restoration and conservation of old properties.
- 11 Work on individual buildings or on large redevelopment schemes, and can be responsible for the design of the surrounding landscape and spaces..
- 12 Work closely with clients and users to make sure that projected designs match their needs and are functional, safe and economical.
- 13 Control projects from start to finish and work with a number of construction professionals, including surveyors and engineers, producing drawings and specifications that the construction team works to.

Feedback to students after mid-course and end of course assessment is an essential part of the architecture program

Architecture Study Program

The student has to earn 188 credit hours to obtain a B.Sc. degree in Architecture. The study program for B.Sc. students in the Architecture Department distributed over 10 semesters as follows:

Semester 1 [19CHs- 18 weeks]

Course Title	Code	Contact Hours				CH
		Th.	Tut	Lab	Total	
Computer Studies I	ARC111	2	-	3	5	3
Design Studio I	ARS111	2	8	-	10	6
History and Theory of Architecture I	ARH111	2	-	-	2	2
Mathematics I	ARM111	2	2	-	4	3
English Language I	ENL111	3	-	-	3	3
Sudanese Culture	SCL111	2	-	-	2	2
		13	10	3	26	19

Semester 2 [19 CHs- 18 weeks]

Course Title	Code	Contact Hours				CH
		Th.	Tut	Lab	Total	
Computer Studies II	ARC121	2	-	3	5	3
Design Studio II	ARS121	2	8	-	10	6
History and Theory of Architecture II	ARH121	2	-	-	2	2
Mathematics II	ARM121	2	2	-	4	3
English Language II	ENL121	3	-	-	3	3
Fundamentals of Engineering and Ethics	GEN122	2	-	-	2	2
		13	10	3	28	19

Semester 3 [21 CHs- 18 weeks]

Course Title	Code	Contact Hours				CH
		Th.	Tut	Lab	Total	
Design Studio III	ARS211	2	8	-	10	6
Construction Technology I	ART211	2	2	-	4	3
Structure I	ARR211	2	-	-	2	2
History and Theory of Architecture III	ARH211	2	-	-	2	2
Environmental Studies I	ARE211	2	-	3	5	3
Building Function I	ARF211	2	-	-	2	2
Computer Studies III	ARC 211	2		3	5	3
		14	10	6	30	21

Semester 4 [21 CHs- 18 weeks]

Course Title	Code	Contact Hours				CH
		Th.	Tut	Lab	Total	
Design Studio IV	ARS221	2	8	-	10	6
Construction Technology II	ART221	2	2	-	4	3
Structure II	ARR221	2	-	-	2	2
History And Theory Of Architecture IV	ARH221	2	-	-	2	2
Environmental Studies II	ARE221	2	-	3	5	3
Building Function II	ARF221	2	-	-	2	2
Computer Studies IV	ARC221	2		3	5	2
		14	10	6	30	21

Semester 5 [23 CHs- 18 weeks]

Course Title	Code	Contact Hours				CH
		Th.	Tut	Lab	Total	
Design Studio V	ARS311	4	12	-	16	10
Construction Technology III	ART311	2	2	-	4	3
Structure III	ARR311	2	1	-	3	2
History and Theory of Architecture V	ARH311	2	-	-	2	2
Building Services I	ARB311	2	-	-	2	2
Building Function III	ARF311	2	-	-	2	2
		14	15	-	29	21

Semester 6 [25 CHs- 18 weeks]

Course Title	Code	Contact Hours				CH
		Th.	Tut	Lab	Total	
Design Studio VI	ARS321	4	12	-	16	10
Construction Technology IV	ART321	2	2	-	4	3
Building Services II	ARB321	2	1	-	3	2
Urbanism I	ARU321	2	-	-	2	2
Construction Management I	ARO321	2	-	-	2	2
Building Function IV	ARF321	2	-	-	2	2
Structure IV	ARR321	2	1	-	3	2
		16	16	-	32	23

Semester 7 [24 CHs- 18 weeks]

Course Title	Code	Contact Hours				CH
		Th.	Tut	Lab	Total	
Design Studio VII	ARS411	4	12	-	16	10
Construction Technology V	ART411	2	1	-	3	2
Urbanism II	ARU411	2	-	-	2	2
Construction Management II	ARO411	2	-	-	2	2
Advanced computer studies	ARV411	1	3	-	4	2
Building Function V	ARF411	2	-	-	2	2
Building Services III	ARS411	2	-	-	2	2
		15	16	-	31	22

Semester 8 [24 CHs- 18 weeks]

Course Title	Code	Contact Hours				CH
		Th.	Tut	Lab	Total	
Design Studio VIII	ARS421	6	12	-	20	10
Construction Technology VI	ART421	2	2	-	4	3
Construction Management III	ARO421	2	-	-	2	2
Building Function VI	ARF421	2	-	-	2	2
Survey Engineering	SUR421	2	2	-	4	3
		14	16	-	32	20

Semester 9 [12 CHs-18 weeks]

Course Title	Code	Contact Hours				CH
		Th.	Tut	Lab	Total	
Graduation Project I	ARG511	-	20	-	20	10
Research method	ARR511	2	-	-	2	2
		2	20	-	22	12

Semester 10 [10 CHs- 18 weeks]

Course Title	Code	Contact Hours				CH
		Th	Tut	Lab	Total	
Graduation Project II	ARG521	-	20	-	20	10
		-3	-	-	20	10

COURSE OUTLINES

<i>Title</i>	<i>Code</i>	<i>Semester/Duration</i>	<i>Credits</i>
Design studio I	ARS 111	1/ Longitudinal	4,8,0

Students shall be trained in drafting draughting techniques and principles including use of drawing instruments and materials. Training shall achieve knowledge of projections including perspectives, colour, rendering and shadow and shade principles.

<i>Title</i>	<i>Code</i>	<i>Semester/Duration</i>	<i>Credits</i>
Design studio II	ARS 121	2/ Longitudinal	4,8,0

Students shall learn the basics of architectural design and the development of form, space and function. They will be trained in the creative application of the vocabulary of form, space and relation: ties, edges, surfaces, volumes, enclosure, semi- enclosure, open, cluster, axis.

<i>Title</i>	<i>Code</i>	<i>Semester/Duration</i>	<i>Credits</i>
History and Theory of Architecture I	ARH 111	2/ Longitudinal	2,0,0

Students shall be exposed to contextual aspects of architecture. They will learn about various and main world civilizations and civilizations components and characteristics. Coverage shall include classical as well as intermediary phases in civilization.

<i>Title</i>	<i>Code</i>	<i>Semester/Duration</i>	<i>Credits</i>
History and Theory of Architecture II	ARH 121	2/ Longitudinal	2,0,0

Students shall be exposed to contextual aspects of architecture, art and construction of classical civilizations in Europe and Middle East and successive phases up to Renaissance and the subsequent developments to the Modern era.

<i>Title</i>	<i>Code</i>	<i>Semester/Duration</i>	<i>Credits</i>
Mathematical I	ARM 111	2/ Longitudinal	2,2,0

Students shall learn some historical landmarks in the development of math with emphasis on geometry. Basic principles of geometric shapes and properties: dimension, area combination, subdivision. Rectangular, circular, triangular, hexagon, octagon, decagon.... etc. conical sections, with relevant software application.

<i>Title</i>	<i>Code</i>	<i>Semester/Duration</i>	<i>Credits</i>
Mathematical II	ARM 121	2/ Longitudinal	2,2,0

Students shall learn about solid geometric forms: pyramids, cubes, rectangular, blocks, conical, sphere, grid forms, lattice forms compositions and combinations of various forms. Measurements and dimensions, with relevant software application.

<i>Title</i>	<i>Code</i>	<i>Semester/Duration</i>	<i>Credits</i>
Computer Studies I	ARC 111	2/ Longitudinal	1,0,3

Introducing the students to the computer: basics of how to use software. Introduction to CAD: drawings and drawing setups for geometric shapes, lines, surfaces volumes, simple building plans.

<i>Title</i>	<i>Code</i>	<i>Semester/Duration</i>	<i>Credits</i>
Computer Studies II	ARC 121	2/ Longitudinal	1,0,3

Advanced CAD studies. Application and training on autocad, archicad, 3D, rendering, plans, sections elevations, dimensioning, labeling etc.

<i>Title</i>	<i>Code</i>	<i>Semester/Duration</i>	<i>Credits</i>
Design studio III	ARS 211	3/ Longitudinal	4,8,0

Students shall be trained in form and function through a complete design process utilizing modelling as a design technique. Presentations in models, drawings, photographs. Design of a multi-cell building: brief formulation, analysis of requirements- examples search – spatial analysis and relations of functions. Form development.

<i>Title</i>	<i>Code</i>	<i>Semester/Duration</i>	<i>Credits</i>
Construction Technology I	ART 211	3/ Longitudinal	2,2,0

The students shall be introduced to construction technology: methods, materials and equipment's range. Construction systems – Excavation – Foundations – Super structure – Roofing – Components – Opening – doors – windows.

<i>Title</i>	<i>Code</i>	<i>Semester/Duration</i>	<i>Credits</i>
Structure I	ARR 211	3/ Longitudinal	2,0,0

Students shall be exposed to the basic principles of structures and building structural systems. Historical perspective – structural principles – Morphological representation of structures –

structure and architecture – structure and form.

<i>Title</i>	<i>Code</i>	<i>Semester/Duration</i>	<i>Credits</i>
History and Theory of Architecture III	ARH 211	3/ Longitudinal	2,0,0

Students shall continue with contextual architecture for Islamic civilization, art and architecture: Islamic architecture – Origins and beginnings – Regional developments – Historical evolutions – Islamic art and decoration.

<i>Title</i>	<i>Code</i>	<i>Semester/Duration</i>	<i>Credits</i>
Environmental Studies I	ARE 211	3/ Longitudinal	2,0,3

The environment as a container of buildings but also contained in building and the interaction of man-environment. Building physics – basic principles of heat, light, sound – climate and environmental descriptions.

<i>Title</i>	<i>Code</i>	<i>Semester/Duration</i>	<i>Credits</i>
Building Function I	ARF 211	3/ Longitudinal	2,0,0

The building as an activity system, introducing indoor and outdoor activity typologies and descriptions. Educational buildings: siting, location, configuration, functional analysis and aesthetics applying the elements of form and space.

<i>Title</i>	<i>Code</i>	<i>Semester/Duration</i>	<i>Credits</i>
Computer Studies III	ARC 211	3/ Longitudinal	1,0,3

Further development and application of software in architectural design utilizing more visualization techniques and effects with a variety of relevant software's

<i>Title</i>	<i>Code</i>	<i>Semester/Duration</i>	<i>Credits</i>
Design studio IV	ARS 221	4/ Longitudinal	4,8,0

Students shall proceed to higher level in design and creativity. Deeper studies of design of form and function and presentation techniques in computer and modelling. Design of educational building – Functions and requirements- examples – analysis of space and relationships – Form – modelling – presentation.

<i>Title</i>	<i>Code</i>	<i>Semester/Duration</i>	<i>Credits</i>
Construction Technology II	ART 221	4/ Longitudinal	2,2,0

Further development in construction technology utilizing different materials and techniques

for various typologies of building components. Masonry Construction: Foundations, walls, roofs - Openings in brick and stone - Brick bonding – Floor construction: concrete, tiles, other.

<i>Title</i>	<i>Code</i>	<i>Semester/Duration</i>	<i>Credits</i>
Structure II	ARR 221	4/ Longitudinal	2,0,0

Structural knowledge is further developed as an architectural creation of form for various components. Concepts of structural behavior: graphic approach – Representation in physical models of systems and forces.

<i>Title</i>	<i>Code</i>	<i>Semester/Duration</i>	<i>Credits</i>
History and Theory of Architecture IV	ARH 221	4/ Longitudinal	2,0,0

Students are exposed to the advent and roots of the modern movements in architecture design and art. Visual and contextual characteristics and philosophies. Modern architecture – post-modern architecture – pioneers of modern architecture.

<i>Title</i>	<i>Code</i>	<i>Semester/Duration</i>	<i>Credits</i>
Environmental Studies II	ARE 221	4/ Longitudinal	2,0,3

Man-environment relation is further elaborated and more comprehensively analyzed for the built environment. Thermal behavior of buildings: environmental and climatic context – Mitigation and enhancement, through design, materials and construction – ventilation.

<i>Title</i>	<i>Code</i>	<i>Semester/Duration</i>	<i>Credits</i>
Building Function II	ARF 221	4/ Longitudinal	2,0,0

Residential systems are presented in this module to familiarize students and gain knowledge on housing policies, neighborhood plans, residential designs, low cost, low and medium density, residential designs, social and environmental aspects.

<i>Title</i>	<i>Code</i>	<i>Semester/Duration</i>	<i>Credits</i>
Computer Studies IV	ARC 221	4/ Longitudinal	1,0,3

Students shall proceed to more in-depth application of design software in detailed visualization, presentations, and set-ups.

<i>Title</i>	<i>Code</i>	<i>Semester/Duration</i>	<i>Credits</i>
Design studio V	ARS 311	5/ Longitudinal	4,12,0

The studies program in this semester V shall tackle a residential project at the neighborhood

level taking into consideration overall planning and design architectural typologies.

<i>Title</i>	<i>Code</i>	<i>Semester/Duration</i>	<i>Credits</i>
Construction Technology III	ART 311	5/ Longitudinal	2,2,0

This is a further developed construction module whereby students shall learn about the characteristic technical issues of multi-story building, building cores, skin, floors and internal partitioning systems. Multi story construction – external walling – partitions – staircases – Railing and metal screens – shading device systems – Insulation of heat and water.

<i>Title</i>	<i>Code</i>	<i>Semester/Duration</i>	<i>Credits</i>
Structure III	ARR 311	5/ Longitudinal	2,1,0

In this module III in structures the students are introduced to structure as a form generator and the intimate relations and design opportunities between structure and architectural form are elaborated. Principles of frame structures – Principles of roofing systems – Large space roofing systems – contemporary structure and architectural form.

<i>Title</i>	<i>Code</i>	<i>Semester/Duration</i>	<i>Credits</i>
History and Theory of Architecture V	ARH 311	5/ Longitudinal	2,0,0

Students are introduced to the philosophical and creative origins and impacts of contemporary architectural design. Leading architects and architectural works are addressed and analyzed. Contemporary architecture, developments, critique – structuralism – de constructivism – Digital architecture – contemporary art and architecture – parametricism.

<i>Title</i>	<i>Code</i>	<i>Semester/Duration</i>	<i>Credits</i>
Building Services I	ARB 311	5/ Longitudinal	2,0,0

This module introduces the role of building services in the efficiency and quality of an architectural design. Basic principles and their design allowance in the building architecture are addressed. Water supply and disposal: networks, storage, disposal.

<i>Title</i>	<i>Code</i>	<i>Semester/Duration</i>	<i>Credits</i>
Building Function III	ARF 311	5/ Longitudinal	2,0,0

The special needs and characteristics of transportation buildings are introduced. Design of transportation buildings: Brief - Functions and circulation analysis – spatial analysis – configuration options .and examples - Form – modelling – presentation

<i>Title</i>	<i>Code</i>	<i>Semester/Duration</i>	<i>Credits</i>
Design studio VI	ARS 321	6/ Longitudinal	6,12,0

Design studio VI shall address transportation buildings. Terminal, rail station, airport, bus terminals components shall be analyzed for location, access, movement and circulation typologies and functional efficiency and architectural impression.

<i>Title</i>	<i>Code</i>	<i>Semester/Duration</i>	<i>Credits</i>
Construction Technology IV	ART 321	6/ Longitudinal	2,2,0

A relatively in-depth technical approach for how the building parts come together in different typologies and the methods for achieving that. Construction practice: material preparation – layout and fixing – placement and handling for different components of building – construction equipment and machining.

<i>Title</i>	<i>Code</i>	<i>Semester/Duration</i>	<i>Credits</i>
Building services II	ARB 321	6/ Longitudinal	2,2,0

This module introduces in further depth the role of building services in the efficiency and quality of an architectural design. Basic principles and their design allowance in the building architectural are addressed. Sewage disposal systems – disposal – treatment – Garbage disposal. And treatment. Recycling and reuse concepts and technologies.

<i>Title</i>	<i>Code</i>	<i>Semester/Duration</i>	<i>Credits</i>
Urbanism I	ARU 321	6/ Longitudinal	2,0,0

Students are introduced to settlement planning with general historical developments and contexts. Emphasis shall be on spatial aspects. Urban design shall constitute the core of the approach to this course. Planning Theory: National, regional, urban – Urban design Theory and principles of urban design of residential areas.

<i>Title</i>	<i>Code</i>	<i>Semester/Duration</i>	<i>Credits</i>
Construction Management I	ARO 321	6/ Longitudinal	2,0,0

In this module I the basic principles of management are introduced to familiarize the students with its significance and applications. Construction management and design management are focused, as creatively productive processes

<i>Title</i>	<i>Code</i>	<i>Semester/Duration</i>	<i>Credits</i>
Building Function IV	ARF 321	6/ Longitudinal	2,0,0

In this module the wider context of architecture is introduced: buildings with wider communal and

cultural impact. Design of recreational / cultural / buildings – Brief formation – Functional and optical analysis – landscape and built form – Modeling – presentation

<i>Title</i>	<i>Code</i>	<i>Semester/Duration</i>	<i>Credits</i>
Structure IV	ARR 321	6/ Longitudinal	2,1,0

In structure IV advanced modern structure systems and materials are presented with emphasis on space structures, towers and the architectural expression of the structure systems. Form and structure shall be the learning theme.

<i>Title</i>	<i>Code</i>	<i>Semester/Duration</i>	<i>Credits</i>
Design studio VII	ARS 411	7/ Longitudinal	18,0,0

Studio VII represents the synthesis of previous design training and learning material. An urban design project shall represent the context of an architectural project which is then technically detailed as a buildable project. Urban design project: Analysis and concept development. Architectural Design project: concept, preliminary and developed design – presentation.

<i>Title</i>	<i>Code</i>	<i>Semester/Duration</i>	<i>Credits</i>
Construction Technology V	ART 411	7/ Longitudinal	2,2,0

In this construction module students learn about the properties and specifications of materials and components and the basis of selection and application in project components. Finishing, Furnishing and fitting – landscape and extend constructions.

<i>Title</i>	<i>Code</i>	<i>Semester/Duration</i>	<i>Credits</i>
Urbanism II	ARU 411	7/ Longitudinal	2,0,0

In this module of urbanism II the planning context of certain city functions is discussed. Their spatial planning is developed applying planning standards. Their urban design represents the core of this module. Planning theory – City sectors planning: industrial, commercial centers – codes and standards.

<i>Title</i>	<i>Code</i>	<i>Semester/Duration</i>	<i>Credits</i>
Construction Management II	ARO 411	7/ Longitudinal	2,0,0

In this module of construction management II construction management and design management methods are elaborated. Specifications and bills of quantities are introduced as an essential professional knowledge.

<i>Title</i>	<i>Code</i>	<i>Semester/Duration</i>	<i>Credits</i>
Advanced computer studies	ARV 411	7/ Longitudinal	1,0,3

In this module students are introduced and trained in advanced applications and design software to produce videos, animations and study visuals. Parametric design is introduced with application and software.

<i>Title</i>	<i>Code</i>	<i>Semester/Duration</i>	<i>Credits</i>
Building Function V	ARF 411	7/ Longitudinal	2,0,0

In this module of building functions V students learn about more technically complex building types, their planning and specialized technical characteristics and provisions. Typologies include industrial and factory buildings, health buildings.

<i>Title</i>	<i>Code</i>	<i>Semester/Duration</i>	<i>Credits</i>
Building Service III	ARS 411	7/ Longitudinal	2,0,0

This module introduces the role of building services in the efficiency and quality of an architectural design. Basic principles and their design allowance in the building architecture are addressed. Themes shall be electrical network distribution, lighting for internal and external areas. Air conditioning, cooling, ventilation is introduced with emphasis on their constructional and spatial requirements.

<i>Title</i>	<i>Code</i>	<i>Semester/Duration</i>	<i>Credits</i>
Design studio VIII	ARS 421	8/ Longitudinal	4,16,0

In this design studio a continuation in the development and finalization of production drawings is the main learning theme. Specification and quantification are included. Technical solutions – Detailed design – Production drawings.

<i>Title</i>	<i>Code</i>	<i>Semester/Duration</i>	<i>Credits</i>
Construction Technology VI	ART 421	8/ Longitudinal	2,2,0

This construction module VI exposes the students to recent and contemporary advances in techniques and methods of production including total fabrication, CAM-CAD processes. Contemporary technologies in construction – Factory production – Prefabrication

<i>Title</i>	<i>Code</i>	<i>Semester/Duration</i>	<i>Credits</i>
Construction Management III	ARO 421	8/ Longitudinal	2,0,0

In this module of construction management III students learn about contracts in design services and project construction including bidding and engagement procedures, FIDIC international and local versions.

<i>Title</i>	<i>Code</i>	<i>Semester/Duration</i>	<i>Credits</i>
Building Function VI	ARF 421	8/ Longitudinal	2,0,0

In this module of building functions students are introduced to methods and techniques for studying and analyzing complex building relationships centering on an urban design level and considering movement, location, way-finding, connectivity.

<i>Title</i>	<i>Code</i>	<i>Semester/Duration</i>	<i>Credits</i>
Graduation Project I	ARG 511	9/ Longitudinal	3,21,0

Students in this module prepare for their graduation project by search and study of relevant aspects which constitute the main input in their design. Research on nature and scape of an approved architectural project – Review of similar projects – standards – Brief development – Site selection and analysis. Design strategies – preliminary concepts.

<i>Title</i>	<i>Code</i>	<i>Semester/Duration</i>	<i>Credits</i>
Research method	ARR 511	9/ Longitudinal	2,0,0

Various research methods and techniques are surveyed in an introductory format considering the main knowledge areas: science and humanities. Research in architecture is further elaborated in terms of theory, method and techniques for visual research and the use of multimedia.

<i>Title</i>	<i>Code</i>	<i>Semester/Duration</i>	<i>Credits</i>
Graduation Project II	ARG 521	10/ Longitudinal	3,21,0

In this final semester students shall produce a design project with the input of semester 9 whereby ability in generating a design efficiently reflecting functional, formal and technology qualities.

Design studies – conceptual design - preliminary design – Developed design – Technical solutions – model – Presentation.

