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PROSPECTUS

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Welcome

Note from The President of NUSU

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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 the 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 lo-

cal and worldwide, 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 a 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 choose 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 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

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ACKNOWLEGEMENTS

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Worldwide, the overall innovations and their modifications stem 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, Prof.Maha Esmeal (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, Awadelseed 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. Muhammadani, 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, Mohyddin Majzoub, Jamal Suleiman, Abbas ElKarib, ElGamri ElRadi, Salah M. Omer, Majid Mustafa, Muzamil Hassan A/Qadir, M. A/Rahim A/AAl, 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 Ab-

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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 the improvements made 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 Albouni 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 manuscripts has been skillfully and patiently carried out by Prof. A Rahman Osman Beeri 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?

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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 achievements, 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 democratic 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, (13) Prospectus and Curricula, (14) Organizational Chart, (15) Committee Structure, (16) Logbooks of students' skills and activities, (17) Year Plans, (18) Academic Calendars, (19) 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 individuals involved 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 noticeboards 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 institutions 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. ENTRANCE 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 Sudan, an Afro-Arab 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, maybe 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.

Prot Sudan

Khartoum

B. 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 to students and staff for 18 hours on weekdays 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 pride for the University is the design of its beautiful, environmentally friendly, and durable facilities that support 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 teaching hospital building stands next to the main University block and accommodates over 300 beds with full 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.

Background

The Faculty of Engineering & Architecture at the National University – Sudan (NUSU–FOEA) aspires to be a leading center of excellence in engineering education, architectural innovation, and applied research both nationally and internationally. It is committed to producing highly competent, ethical, and forward-thinking engineers and architects through rigorous, interdisciplinary training aligned with global standards.

The faculty emphasises design thinking, technological integration, and sustainable development, preparing graduates to address complex challenges in infrastructure, energy, urban planning, and digital systems. Through a curriculum that blends theory with hands-on experience, students are equipped to contribute meaningfully to industry, academia, and society.

NUSU–FOEA fosters a culture of innovation, collaboration, and lifelong learning, encouraging students to engage in real-world projects, industry partnerships, and community development initiatives. The faculty upholds core values such as integrity, excellence, and respect for diversity, and strives to maintain a reputable role in advancing engineering and architectural solutions for a more resilient and equitable future.

Our Vision

The (NUSU–FOEA) aspires to become a premier center of excellence in engineering and architectural education, research, and societal impact, both nationally and internationally. Its goal is to deliver innovative, interdisciplinary training that aligns with global standards and empowers students to become creative, ethical, and solution-oriented professionals.

The faculty is committed to advancing technological innovation, sustainable design, and infrastructure development through evidence-based teaching, applied research, and strong industry engagement. It fosters critical thinking, lifelong learning, and collaborative problem-solving across engineering and architectural disciplines.

By cultivating partnerships with academic institutions, industry leaders, and communities,

NUSU–FOEA aims to contribute meaningfully to national development, environmental resilience, and the global engineering landscape. Upholding values of integrity, excellence, and inclusivity, the faculty strives to shape a generation of professionals capable of designing a smarter, more equitable future.

Our Mission

The NUSU-FOEA is committed to fostering academic excellence, advancing technological innovation, and promoting sustainable development within a dynamic, student-centered learning environment. The Faculty aims to cultivate competent, ethical, and visionary engineers and architects who are dedicated to lifelong learning, creative problem-solving, and socially responsible practice.

Graduates are envisioned as innovative thinkers equipped to address complex engineering and design challenges across diverse contexts, local, regional, and global. Through rigorous education, hands-on experience, and interdisciplinary collaboration, students develop the skills to lead transformative projects in infrastructure, energy, urban planning, and architectural design.

In partnership with industry, government, and communities, the Faculty strives to make meaningful contributions to national development, environmental resilience, and the advancement of engineering and architectural standards in Sudan and beyond.

Our Values

The NUSU-FOEA core values include:

- Commitment to community-centered innovation: We strive to address societal challenges through engineering and architectural solutions that are ethical, sustainable, and responsive to local needs.
- Integrity, honesty, and respect: All actions within the Faculty are guided by truthfulness, transparency, and respect for human dignity, fostering trust and professionalism in every endeavour.
- Equity and inclusivity: We ensure fair treatment for all students, staff, and stakeholders, regardless of ethnicity, appearance, religion, or ideology, creating a welcoming and diverse academic environment.
- Dedication to excellence and accountability: We promote hard work, perseverance, and a culture of responsibility, encouraging students and faculty to pursue excellence while being accountable for their conduct and contributions.
- Collaborative spirit and global outlook: We value teamwork, interdisciplinary collaboration, and international engagement, preparing graduates to thrive in a globally connected engineering and architectural landscape.

- Environmental stewardship and sustainability: We uphold principles of ecological responsibility, integrating sustainable practices into design, construction, and technological innovation.
- Positive institutional image and public trust: We aim to maintain a reputable presence in the community by delivering high-quality education, impactful research, and ethical professional services.

Our Objectives:

- To graduate professionals holding degrees in engineering and architecture who demonstrate technical excellence, ethical integrity, and a strong commitment to sustainable development and community engagement.
- To uphold and promote the values and cultural heritage of Sudan, integrating national identity and ethical principles into the educational philosophy and professional practice of all graduates.
- To enhance engineering and architectural research by leveraging the university's laboratories, digital infrastructure, and interdisciplinary collaboration to address pressing technological and environmental challenges.
- To contribute to community development by offering engineering and design services through university-led initiatives and partnerships with governmental and non-governmental organisations, thereby improving infrastructure and quality of life.
- To participate in the planning and implementation of national development projects, utilising the expertise of faculty members and consultants to support strategic goals in urban planning, energy, transportation, and environmental resilience.
- To promote continuous professional development by organising local and international workshops, seminars, and conferences aimed at advancing the skills and innovation capacity of engineers and architects.
- To ensure access to modern tools and technologies by maintaining state-of-the-art laboratories, design studios, and software resources, in collaboration with industry partners and relevant ministries.

Departments

The Faculty of Engineering & Architecture comprises three harmonised, interrelated departments that collectively form the backbone of engineering and architectural education, research, and professional practice. These departments foster a comprehensive understanding of design, technology, and infrastructure, ensuring that future engineers and architects are well-equipped with the knowledge, skills, and ethical standards essential for excellence in their

fields.

Working synergistically, these departments provide an integrated academic experience that balances theoretical foundations, practical applications, innovation, and community engagement. Their collective goal is to produce competent, creative, and socially responsible professionals ready to meet the evolving demands of engineering and architectural practice both locally and globally.

The departments are:

- Architecture Department
- Civil Engineering Department
- Electrical & Electronics Engineering Department

Department of Architecture

The Department of Architecture is dedicated to advancing design excellence through rigorous education, research, and mentorship. Its faculty of experienced architects and scholars serves as role models, emphasising the integration of creative vision with technical precision and cultural sensitivity.

Rooted in both tradition and innovation, the department fosters a deep understanding of spatial design, environmental responsibility, and urban dynamics. Students are challenged to explore architecture as a multidisciplinary practice, where aesthetics, functionality, and sustainability converge to shape the built environment.

Through studio-based learning, critical discourse, and hands-on projects, the department cultivates future architects who are not only skilled designers but also thoughtful contributors to society. Its commitment to ethical practice, contextual awareness, and lifelong learning ensures graduates are prepared to lead in both local and global architectural landscapes.

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.

Teaching Programmes:

- Core architectural concepts are imparted to students primarily during their design

studio years, where theoretical knowledge is integrated with hands-on practice.

- In the Faculty of Engineering & Architecture, the department leads the Architectural Design course series, beginning in the second year and intensifying through the fourth and fifth years. These courses cover fundamental principles of spatial organisation, form, function, and contextual design, with increasing complexity in urban, institutional, and mixed-use projects.
- The department also conducts the Sustainable Architecture and Environmental Design course, focusing on climate-responsive strategies, energy efficiency, and ecological integration. Students learn to apply passive design techniques, material selection, and environmental analysis tools to real-world challenges.
- Additionally, the department offers the Urban Planning and Theory course, which introduces students to the dynamics of city development, zoning, public space design, and socio-cultural factors influencing urban form.

Research & Innovation:

- Emphasis on applied research to enhance the quality, sustainability, and cultural relevance of the built environment. The department encourages investigations into architectural design methodologies, material technologies, and spatial performance to address real-world challenges in urban and rural contexts.
- Promotes multidisciplinary collaboration across engineering, environmental science, sociology, and digital technologies. Faculty and students engage in joint research projects that explore smart cities, heritage conservation, climate-responsive design, and community-driven planning.
- Supports design research, post-occupancy evaluations, and architectural audits to assess the impact of built spaces on human behaviour, energy consumption, and social equity. These initiatives inform policy, practice, and pedagogy, reinforcing the department's commitment to innovation and evidence-based design.

Department of Civil Engineering

- The Department of Civil Engineering is dedicated to advancing infrastructure excellence through rigorous education, applied research, and professional mentorship. Its faculty of experienced engineers and scholars serves as role models, emphasising the integration of analytical rigour with practical innovation and ethical responsibility.
- Rooted in both foundational engineering principles and emerging technologies, the department fosters a deep understanding of structural integrity, environmental stewardship, and sustainable development. Students are challenged to explore

civil engineering as a multidisciplinary field, where design, materials, and systems converge to shape resilient communities and modern infrastructure.

- Through project-based learning, fieldwork, and collaborative problem-solving, the department cultivates future civil engineers who are not only technically proficient but also socially conscious contributors to national and global development. Its commitment to safety, sustainability, and lifelong learning ensures graduates are equipped to lead in diverse sectors, including construction, transportation, water resources, and urban planning.

VISION AND MISSION

The VISION of the Civil Engineering Department is to be recognized locally and regionally as a leading department providing high quality education, research and services.

The MISSION is to provide students with the highest level of theoretical and practical education that leads them to successful careers. The department programs prepare graduates to acquire effective and interactive skills to face new challenges as high caliber Civil Engineers to enable them to contribute effectively and professionally to society.

Teaching Programmes:

- Core civil engineering principles are introduced to students through a blend of theoretical instruction and practical application, particularly during their structural and infrastructure-focused studio courses. These experiences emphasise the integration of design, analysis, and construction methodologies.
- Within the Faculty of Engineering & Architecture, the department leads the Structural Design and Analysis course series, beginning in the second year and advancing through the fourth and fifth years. These courses cover essential topics such as load-bearing systems, material behaviour, and design codes, with increasing complexity in bridges, high-rise buildings, and public infrastructure projects.
- The department also conducts the Sustainable Infrastructure and Environmental Engineering course, which emphasises eco-conscious design, resource efficiency, and resilience. Students explore water management systems, green construction practices, and environmental impact assessments, applying engineering tools to address global sustainability challenges.
- Additionally, the department offers the Transportation and Urban Infrastructure Planning course, introducing students to the planning and design of road networks, transit systems, and urban utilities. The curriculum integrates traffic flow theory, geospatial analysis, and socio-economic considerations to prepare students for holistic infrastructure development.

Research & Innovation:

Emphasis on applied research to improve infrastructure resilience, environmental sustainability, and socio-cultural integration. The department encourages investigations into structural systems, construction materials, geotechnical innovations, and transportation networks to address pressing challenges in both urban and rural development.

Promotes multidisciplinary collaboration across civil engineering, environmental science, urban planning, and data analytics. Faculty and students engage in joint research projects focused on climate-adaptive infrastructure, disaster risk reduction, heritage preservation, and inclusive urban mobility, fostering holistic solutions for evolving societal needs.

Supports performance-based design, lifecycle assessments, and post-construction evaluations to examine the long-term impact of civil infrastructure on safety, resource efficiency, and community well-being. These initiatives inform engineering standards, public policy, and educational frameworks, reinforcing the department's commitment to innovation, sustainability, and evidence-driven practice.

Department of Electrical & Electronics Engineering

The Department of Electrical & Electronics Engineering is dedicated to advancing technological innovation through rigorous education, research, and mentorship. Its faculty of accomplished engineers and scholars serve as role models, emphasising the integration of theoretical insight with practical expertise and ethical responsibility.

Rooted in both classical engineering foundations and cutting-edge advancements, the department fosters a deep understanding of electrical systems, electronic devices, and intelligent technologies. Students are challenged to explore electrical engineering as a multidisciplinary practice, where physics, computation, and design converge to power modern life.

Through lab-based learning, collaborative experimentation, and real-world applications, the department cultivates future engineers who are not only technically adept but also visionary contributors to society. Its commitment to sustainable innovation, global relevance, and lifelong learning ensures graduates are prepared to lead in diverse fields such as energy systems, embedded electronics, telecommunications, and automation.

VISION AND MISSION

The VISION of this Department is to provide education leading to becoming a highly competent professional in Electrical & Electronics Engineering who will excel in meeting the challenges to serve the society.

The MISSION is to enhance the position of the EEE Department as one of the top teaching and research departments in Sudan by providing the highest quality teaching and learning

environment for the students and thus producing competent and compassionate EEE graduates fully equipped to achieve the highest personal and professional standards for the overall development of the university and of the country. Moreover, the Department is dedicated to attracting and sustaining a cluster of faculty members who are, through their quality teaching, research and service, devoted to the development of compassionate EEE graduates.

Teaching Programmes:

- Core electrical and electronics engineering concepts are imparted to students primarily through laboratory-intensive courses, where theoretical foundations are integrated with hands-on experimentation and system design.
- Within the Faculty of Engineering & Architecture, the department leads the Circuit Design and Analysis course series, beginning in the second year and intensifying through the fourth and fifth years. These courses cover fundamental principles of analogue and digital circuits, signal processing, and embedded systems, with increasing complexity in automation, instrumentation, and real-time applications.
- The department also conducts the Renewable Energy Systems and Power Electronics course, focusing on sustainable energy conversion, smart grid technologies, and efficient power management. Students learn to apply simulation tools, design photovoltaic and wind systems, and analyse energy storage solutions in response to global energy challenges.
- Additionally, the department offers the Communication Systems and Electromagnetic Theory course, which introduces students to the principles of wireless communication, antenna design, and signal transmission. The curriculum explores modulation techniques, network protocols, and the socio-technical impact of connectivity in modern society.

Research & Innovation:

- Emphasis on applied research to advance intelligent systems, energy efficiency, and digital connectivity. The department encourages investigations into circuit design, embedded technologies, and power systems to address real-world challenges in industrial automation, renewable energy, and smart infrastructure.
- Promotes multidisciplinary collaboration across engineering, computer science, environmental studies, and telecommunications. Faculty and students engage in joint research projects exploring Internet of Things (IoT), robotics, wireless networks, and energy management systems, contributing to the development of smart cities and sustainable technologies.
- Supports innovation in system modeling, hardware prototyping, and performance evaluation to assess the reliability, scalability, and environmental impact of electrical

and electronic solutions. These initiatives inform industry practices, academic curricula, and national development strategies, reinforcing the department's commitment to evidence-based engineering and technological advancement.

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Associate Professor of Electrical & Electronics Engineering

Dr. Sawsan M. Almakawy

Deputy Dean

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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

Title	Code	Semester/Duration	Credits
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.

Title	Code	Semester/Duration	Credits
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.

Title	Code	Semester/Duration	Credits
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.

Title	Code	Semester/Duration	Credits
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.

Title	Code	Semester/Duration	Credits
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.

Title	Code	Semester/Duration	Credits
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.

Title	Code	Semester/Duration	Credits
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.

Title	Code	Semester/Duration	Credits
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.

Title	Code	Semester/Duration	Credits
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.

Title	Code	Semester/Duration	Credits
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.

Title	Code	Semester/Duration	Credits
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.

Title	Code	Semester/Duration	Credits
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.

Title	Code	Semester/Duration	Credits
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.

Title	Code	Semester/Duration	Credits
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.

Title	Code	Semester/Duration	Credits
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

Title	Code	Semester/Duration	Credits
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.

Title	Code	Semester/Duration	Credits
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 - Bick bonding – Floor construction: concrete, tiles, other.

Title	Code	Semester/Duration	Credits
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.

Title	Code	Semester/Duration	Credits
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 – postmodern architecture – pioneers of modern architecture.

Title	Code	Semester/Duration	Credits
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.

Title	Code	Semester/Duration	Credits
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.

Title	Code	Semester/Duration	Credits
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.

Title	Code	Semester/Duration	Credits
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.

Title	Code	Semester/Duration	Credits
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.

Title	Code	Semester/Duration	Credits
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.

Title	Code	Semester/Duration	Credits
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.

Title	Code	Semester/Duration	Credits
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.

Title	Code	Semester/Duration	Credits
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.

Title	Code	Semester/Duration	Credits
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.

Title	Code	Semester/Duration	Credits
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.

Title	Code	Semester/Duration	Credits
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.

Title	Code	Semester/Duration	Credits
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.

Title	Code	Semester/Duration	Credits
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

Title	Code	Semester/Duration	Credits
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.

Title	Code	Semester/Duration	Credits
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.

Title	Code	Semester/Duration	Credits
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.

Title	Code	Semester/Duration	Credits
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.

Title	Code	Semester/Duration	Credits
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.

Title	Code	Semester/Duration	Credits
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.

Title	Code	Semester/Duration	Credits
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.

Title	Code	Semester/Duration	Credits
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.

Title	Code	Semester/Duration	Credits
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.

Title	Code	Semester/Duration	Credits
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.

Title	Code	Semester/Duration	Credits
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

Title	Code	Semester/Duration	Credits
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.

Title	Code	Semester/Duration	Credits
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.

Title	Code	Semester/Duration	Credits
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.

Title	Code	Semester/Duration	Credits
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.

Title	Code	Semester/Duration	Credits
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.

National University

الجامعة الوطنية ـ السودان
National University Sudan

Undergraduate & Graduate

PROSPECTUS

National University - Sudan

5TH EDITION JULY 2024 - JUNE 2028

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