Choose your BACHELOR'S PROGRAM

www.aui.ma
Liberal Arts

The American Liberal Arts model exists to offer students both breadth and depth: it allows you to explore after you enroll so that you might develop your passions while also pursuing other avenues of academia. Learning how to think for oneself, how to engage and solve problems not owned by any one subject matter or methodological approach, and having the confidence to participate as a full citizen in an increasingly global economy are the distinguishing advantages of an education that “touches the depth of every individual.” The skills of a liberal education are the skills of lifelong learning and discovery. These are the skills that 21st Century employers value the most.

At Al Akhawayn University, students have the opportunity to select major subject matter fields of study that range from physics to poetry, science to sociology, accounting to astronomy, engineering to etymology, literature to logic, history to human resources, and many more. Importantly, Al Akhawayn provides its students with rigorous opportunities to explore subjects that in their diversity of content and methodologies identify a sophisticated center of higher education.

While graduates of Al Akhawayn enter the workplace with credentials highly valued by diverse career professions, the value of their Al Akhawayn degrees is anchored in the lifelong learning skills that are the unique rewards of direct engagement with the liberal arts.
The School of Business Administration (SBA) is accredited by the European Programme Accreditation System (EPAS) for its Bachelor of Business Administration degree. The SBA is the only EPAS accredited BA program in Africa.

EPAS is an international programme accreditation system operated by the European Foundation for Management Development (EFMD). It aims to evaluate the quality of any business and/or management programme that has an international perspective.
Business Administration

“On top of an outstanding education, AUI fostered creativity outside of the classrooms, providing me with the necessary skills and knowledge to become a leader in the market. Today, as a proud alumna, I can very sincerely say that being involved in this community was one of my best life experiences.”

Soukaina KHATTAB - Class of 2018
Bachelor of Business Administration
Bachelor of Business Administration

The Business Administration program is designed to provide an excellent business education for Morocco's future business leaders. It focuses on major areas of business administration such as finance, marketing, management, international business, logistics, and supply chain management. Each study area has been carefully designed to help students develop the appropriate knowledge and abilities that will contribute to their intellectual growth and development, and ultimately lead them to achieve successful careers in business administration. Students have the opportunity to expand their horizons by selecting a minor in one of the above mentioned areas, as well as African Studies, Arabic Language and Culture, Communication Studies, Human Resource Development, Organizational Studies, Women and Development, Computer Science or Mathematics. All students must complete one or more internships in industry.

**Major Core Courses**
- Accounting
- Microeconomics & Macroeconomics
- Principles of Management
- Principles of Marketing
- Business & Corporate Finance
- Business Law & Ethics
- Entrepreneurship
- Operations Management
- Management Information Systems
- Quantitative Methods in Business
- Business Policy & Corporate Strategy
- Professional Career Development

**Some Concentration Courses**
- Islamic Finance (Finance)
- Financial Investments & Securities Analysis (Finance)
- International Trade (International Business)
- International Accounting (International Business)
- Management of Transportation (Logistics)
- Production & Inventory Management (Logistics)
- Organizational Behavior (Management)
- Conflict Management (Management)
- Advertising & Promotion Management (Marketing)
- Consumer Behavior (Marketing)

**Career Opportunities**

Program graduates have taken leadership positions with businesses, corporations and other organizations both nationally and internationally, as financial analysts, marketing managers, project managers, etc. Many have opted for graduate studies in institutions as prestigious as Harvard University, London School of Economics and EM Lyon.

76% is the employment rate of Business Administration graduates.

This degree, like all other Al Akhawayn University degrees, is a state diploma (Bulletin Officiel no.5998).
The School of Humanities and Social Sciences (SHSS) programs are reviewed and validated by leading international experts and institutions. The Communication Studies Program is assessed by Northern Arizona University and the Human Resource Development Program by George Washington University. The International Studies Program is reviewed by executives from International Studies Association.
My experience at AUI helped me be the person I am today. It taught me way more than just school lessons; it taught me how to be a better person everyday. It taught me that it is possible to achieve anything you want with hard work. My 4 years at AUI were truly the best years of my life.

Soraya HACHAM – Class of 2015
Bachelor of Arts in Communication Studies
Bachelor of Arts in Communication Studies

The Communication Studies program enables students to master a variety of communication competencies required for success in a wide range of exciting careers while building active and responsible citizenship. The program trains students in academic as well as professional and applied communication, with an emphasis on development of creative and critical abilities. Students gain theoretical, technical, and applied expertise in fields such as public relations and advertising, organizational and global communication, media policy, media production, and communication research. Students are required to choose one concentration of the two available: media production or strategic communication.

Major Core Courses
- New Media Technology
- Photography & Visual Story Telling
- Art & Design Production
- Global Communication & Media Policy
- Communication Theories
- Moroccan Media & Society

Concentration in Media Production
Required Courses
- Introduction to Film Making
- Advanced Film Production
- Media Production Project Seminar

Concentration in Strategic Communication
Required Courses
- Public Relations Communication
- Marketing Communication
- Organizational Communication

Career Opportunities

The program prepares students for a wide range of careers. Opportunities exist in communication and information departments of ministries and private companies, advertising and marketing agencies, media institutions, NGOs, and international organizations. It also opens the way to advanced studies in the field. 73% is the employment rate of Communication Studies graduates.

This degree, like all other Al Akhawayn University degrees, is a state diploma (Bulletin Officiel no.5998).
Human Resource Development

What I loved the most about the HRD program is that I could transfer my knowledge from the theories seen in class to real life projects - it is a practical oriented program. This has contributed to the achievement of my goals and the enhancement of my career. None of this could have happened without the thorough supervision of my professors as well as their expertise.

Marwa OULAD TOUIMI – Class of 2018
Bachelor of Science in Human Resource Development
Bachelor of Science in Human Resource Development

The Human Resource Development program emerged in response to the growing need for professionals capable of developing the competencies of employees and improving performance in organizations. Students gain expertise in HRD through courses such as Training and Development, Organization Development, and Career Development. Through problem-based learning methods, internships, and various practical experiences, students acquire practical competencies that are essential to be successful HRD professionals.

Major Core Courses
- Introduction to Human Resource Development
- Ethics in Professional Contexts
- Human Capital Management
- Training & Development
- Introduction to Psychology
- Social/Organizational Psychology

Some Concentration Courses
- Strategic HRD
- Leadership & Management Development
- Consulting for HRD
- Organization Development & Change
- Needs Assessment & Organizational Effectiveness
- Career Management & Development
- Global HRD

Career Opportunities

The program prepares students for positions such as organization development consultants, performance improvement specialists, instructional designers, career development coaches, management and leadership development specialists, and human resource management professionals in the private and the public sectors in Morocco and abroad.

79% is the employment rate of Human Resource Development graduates.

This degree, like all other Al Akhawayn University degrees, is a state diploma (Bulletin Officiel no.5998).
"I have learnt a lot at AUI; the kind of learning that opens the mind and widens perspectives. The extra-curricular activities were my chance to develop effective communication, expand my network, and broaden my knowledge."

Amina FAOUZI ZIZI – Class of 2011
Bachelor of Arts in International Studies
Bachelor of Arts in International Studies

Through the International Studies program, students are offered the opportunity to acquire factual knowledge, theoretical and analytical skills in international affairs, while gaining valuable, practical and professional experience through an internship program. Students choose to specialize in either International Relations or International Cooperation and Development. Students can also pursue a minor in American Studies, African Studies, Gender Studies, Human Resource Development, Communication Studies, Organizational Studies, Computer Science or Business Administration.

Major Core Courses
• Comparative Political Systems
• International History since 1914
• International Economics
• International Law
• Social Theory
• Theories of International Relations

Concentration Courses
• International Security
• International Political Economy
• Foreign Policy Analysis
• Development Policy
• Geographic Information Systems
• Environmental Management
• Anthropology of Development
• Model United Nations
• Conflict Resolution
• Middle Eastern Politics
• International Migration
• Women and Economic Development

Career Opportunities

The program prepares students for a range of careers in government agencies, international organizations, NGOs, and in business; students work in economic sectors such as banking, finance, natural resources, energy, and real estate.

Graduates have also pursued Master’s and Doctoral degrees in Morocco and abroad.

67% is the employment rate of International Studies graduates.

This degree, like all other Al Akhawayn University degrees, is a state diploma (Bulletin Officiel no.5998).
Program Overview

The Bachelor of Science in Environmental Studies and Sustainability is a transdisciplinary program which allows students to understand the complex environmental issues facing Morocco and the world, and to become professional agents in resolving problems in environmentally sustainable ways. The program aims to provide students with the capacity to understand the interconnectedness of all of Earth's physical processes, and the complexity of environmental impacts that arise from human activities.
Program requirements

The 122-credit BSESS degree can be completed in four years. Students who major in BSESS complete a General Education curriculum (40 credits) as well as a Minor degree (15 credits) in another discipline of their choosing.

Major Core Courses

- Chemistry for the Environment
- Climatology
- Environmental Science
- Geographic Information Systems
- Sustainable Earth Systems
- Environmental Ethics
- Environmental Laws and Policies
- Environmental Economics and Circular Economy

Optional Courses

- Hydrology and Water Resources
- Environment and Infection
- Ecology of Species Invasion
- Facets of Sustainability
- Religion and the Natural World
- Global Politics of Water
- Environmental Dimensions of Security

Career Opportunities

The challenges posed by the impacts of human activities on the environment, and by global climate change, require professionals able to understand the interconnectedness of complex ecological, social and economic systems. Such professionals work in public agencies, private corporations and civil society organizations. Among these are local, regional and national planning agencies, national and international environmental monitoring agencies, public utility providers, providers, resource extraction industries, transportation and security agencies. As environmental monitoring and management principles and technologies are universally applicable, graduates of the program will be eligible for employment in Morocco as well as abroad.

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Program Overview

The Bachelor of Science in Spatial Planning and Management aims to educate professionals able to contribute to urban and regional planning processes, to the management of resources, infrastructure and services, and to environmental monitoring. Students learn to apply the tools of spatial analysis to a diverse range of public and private endeavors, including environmental monitoring, emergency relief, policing, city management, forestry, and geomarketing.
Program requirements

The 122-credit BSSPM degree can be completed in four years. Students who major in BSSPM complete a General Education curriculum (40 credits) as well as a Minor degree (15 credits) in another discipline of their choosing.

Major Core Courses

- Introduction to Geography
- Geographic Information systems
- Theories of planning
- Field Methods
- Sustainable Earth Systems
- Development policy
- Environmental Management
- Remote Sensing
- GIS for Local Planning
- Geospatial Monitoring and Modeling

Optional Courses

- Demography
- Resource Management
- Renewable Energy and Conservation
- Designing with the Environment
- Environmental Assessment
- Agriculture and Food Systems
- Project Management
- Urban and Regional Planning in Morocco
- Geomarketing
- Environmental Risk Assessment

Career Opportunities

An increasing number of businesses and agencies need expertise in geomatics and Geographic Information Systems (GIS) in order to improve and expand their services. Among these are local, regional and national planning agencies, national and international environmental monitoring agencies, public utility providers, health and human services providers, resource extraction industries, telecommunications industries, transportation and security agencies. As spatial planning and management principles and technologies are universally applicable, graduates of the program will be eligible for employment in Morocco as well as abroad.

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The School of Science and Engineering (SSE) programs are accredited by the Computing and Engineering Accreditation Commission (CEA) of the Accreditation Board for Engineering and Technology (ABET). There are only four universities in Africa with ABET accredited programs.

ABET accreditation provides assurance that a college or university’s science, computing, engineering, and engineering technology programs meet the quality standards of the profession for which that program prepares graduates.

The new programs offered by the SSE will also undergo the ABET accreditation process once launched.
The Bachelor of Science in Computer Science at AUI was my tremplin to the world of the software engineering by providing me with the necessary computer technical skills through its core engineering program, the research, communication and critical analysis techniques through the university common core classes, and the valuable soft skills from leadership to initiative taking through the various extra curricular activities and part-time jobs offered by AUI.

Yassine GAIMES – Class of 2015
Bachelor of Science in Computer Science
Bachelor of Science in Computer Science

The internationally ABET accredited Computer Science Bachelor’s program covers all of the core areas of computer science, as well as fundamentals of mathematics and science. The program prepares the student to work across a range of computing careers, and allows the student to pursue advanced courses in selected areas. Graduates will understand the core principles of modern computing, solve problems in computing by analyzing, selecting and applying appropriate techniques and tools either individually or as part of a team, implement solutions and present them orally or in written form to a range of technical and non-technical audiences.

Major Core Courses
- Algorithms & Programming
- Software Engineering
- Database Systems
- Object-oriented Design
- Computer Architecture
- Computer Operating Systems
- Computer Languages

Advanced Course Areas
- Computer Networks
- Artificial Intelligence
- Human Computer Interaction
- Cloud Computing
- Computer Graphics
- Internet Technologies
- Computer Security

Career Opportunities

The program produces graduates with a complete background in the core of computer science, to apply current computing technologies in a variety of domains, to analyze problems and present their solutions to a range of technical and non-technical audiences, and to continue to develop with change in the computing world. Students who successfully complete this program are well prepared for work in information technology related fields or for further specialization in computing fields. 47% of graduates have earned Master’s degrees in various fields. Some jobs of current graduates include: startup owner, web designer, project manager, technical marketing engineer, telecommunications engineer and business intelligence developer. 88% is the employment rate of Computer Science graduates.

This degree, like all other Al Akhawayn University degrees, is a state diploma (Bulletin Officiel no.5998).
AUI was a unique life experience; it changed me on many levels. I had the chance, not only to study but also to build a good personality, and gain a new family. In four years I went from a scared child to a mature responsible adult. Thank you AUI for making my college life the best experience I could dream of.

Chayma SABIRI - Class of 2017
Bachelor of Science in Engineering & Management Science
Bachelor of Science in Engineering & Management Science

Through a challenging core in science, mathematics and engineering courses coupled with a core in business and management, the Engineering and Management Science program prepares the student to apply scientific and engineering approaches to solving problems in a modern industrial domain. Graduates will understand essential engineering principles, and be able to identify, formulate, and solve engineering problems to select and use appropriate instrumentation and measurement equipment for concrete tasks, and to understand the impact of engineering solutions in a global context. They will understand issues pertinent to resource management, business performance and profitability, and will be able to communicate effectively and operate in technical multidisciplinary teams to reach business objectives, and to serve as change agents in their workplace based on their technical abilities as well as their interpersonal skills.

**Engineering Core Courses**
- Physical Sciences & Mathematics
- Computer Aided Engineering
- Statics & Dynamics
- Materials
- Digital Design
- Fluid Mechanics
- Thermodynamics
- Electric Circuits

**Management Concentration Courses**
- Economics
- Accounting
- Statistics
- Management
- Quantitative Methods
- Operations Management
- Finance

**Career Opportunities**

The program produces graduates able to address engineering problems with specific applications in an industrial setting. Students who successfully complete this program are well prepared for work in business aspects of engineering areas or for further specialization in the more advanced areas of engineering, business, or computing. Some jobs of current graduates include: logistics coordinator, business support analyst, project manager, commercial manager, oilfield services engineer, quality process engineer, operations and supply chain manager. 30% of graduates have earned Master’s degrees in various fields. **58%** is the employment rate of Engineering and Management Science graduates.

This degree, like all other Al Akhawayn University degrees, is a state diploma (Bulletin Officiel no.5998).
While attending Al Akhawayn University, I realized that balance was the key to success. The environment at AUI gave me the tools I needed to find my own balance between my career, activities, and personal development. AUI was quite a journey. I feel very honored and proud to be part of this community that I call home. I am grateful I was able to make the most out of it. Once an AUler, always an AUler!

Kenza HJIEJ – Class of 2018
Bachelor of Science in General Engineering
Bachelor of Science in General Engineering

Through a challenging core in science, mathematics and engineering courses, coupled with a focused thematic area selected by the student, the General Engineering program prepares the student to apply scientific and engineering approaches to solving problems in a modern industrial domain. The emphasis in this program is on understanding fundamental engineering principles and their applications, and expanding this in a key area of engineering tailored by the student with an adviser. Graduates will understand essential engineering principles and be able to identify, formulate, and solve general engineering problems, select and use appropriate instrumentation and measurement equipment for concrete tasks, and understand the impact of engineering solutions in a global context. They will be able to communicate effectively and operate in technical multidisciplinary teams to reach engineering objectives.

Engineering Core
- Physical Sciences & Mathematics
- Computer Aided Engineering
- Statics & Dynamics
- Materials
- Digital Design
- Fluid Mechanics
- Thermodynamics
- Electric Circuits
- Instrumentation

Sample Thematic Areas
- Renewable Energy
- Electrical Engineering
- Biotechnology
- Logistics
- Software Engineering
- International Engineering

Career Opportunities

The program produces graduates able to address engineering problems with specific applications in an industrial setting. Students who successfully complete this program are well prepared for work in engineering areas or for further specialization in the more advanced areas of engineering. They will also be prepared for jobs in fields related to information technology, such as product development/support or sales. Some jobs of current graduates: include startup owner, software engineer, regional sales manager, quality manager, vice president for research and development, associate professor, IT director, product manager, and network engineer. 38% of graduates have earned Master’s degrees in various fields.

95% is the employment rate of General Engineering graduates.

This degree, like all other Al Akhawayn University degrees, is a state diploma (Bulletin Officiel no. 599B).
Bachelor of Science in Artificial Intelligence and Robotization

Program Overview

The Bachelor of Science in Artificial Intelligence and Robotization (BSAIR) program will give students the necessary knowledge needed to transform data such as images, videos, language and other unstructured data into actionable decisions. The BSAIR curriculum program will allow students to combine skills in computer science, mathematics, computational modeling, machine learning, symbolic computation and software development to build robotized solutions for industry and commerce.

1 This program is in line for ABET accreditation
Approach

The program emphasizes learning by doing through course projects and use of state-of-the-art software tools and development platforms for practical learning and final projects.

Motivation

It is expected that within the next three to five years, there will be an exponential increase in the number of commercial AI-based applications. Opportunities will vary from product applications that embed AI in a product or service to provide end-customer benefits to insight applications that harness advanced analytical capabilities. Such capabilities include machine learning to uncover insights that can inform operational and strategic decisions across an organization, as well as passing by process applications that incorporate AI into an organization’s workflow to either automate processes or improve them by augmenting worker effectiveness.

Acquired Skills

The BSAIR is designed for graduate engineers who can apply Artificial Intelligence (AI) techniques such as Machine Learning, Planning, Sensor integration, Natural Language Processing etc. and Analytics in applications.

Graduates of the BSAIR program will be able to:

- Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.
- Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program’s discipline.
- Communicate effectively in a variety of professional contexts.
- Apply computer science theory and software development fundamentals to produce computing-based solutions.
- Use Artificial Intelligence and Robotization theory and fundamentals to produce AI-based solutions.
Career Opportunities

Graduates of the BSAIR program will be able to work as:

- Computer and Software Engineers
- Digital Transformation Engineers
- Artificial Intelligence Engineers
- Data Scientists
- Digital transformation engineer

Key Courses

In addition to Core Computer Science Courses, the program consists in specialization courses including the capstone project:

- Artificial Intelligence
- Machine Learning and Data Mining
- Natural Language Processing and Text Mining
- Artificial Intelligence for Robotics
- Artificial Neural Networks
- Software Agents and Robotization
- Statistical Analysis

Who can Apply?

The program is open for graduates of Moroccan or International high schools interested in earning a degree in Artificial Intelligence and Robotization.

Usual criteria for admission to the School of Science and Engineering:

- Baccalaureate in “Sciences Physiques et Chimiques”, “Sciences Maths A”, or “Sciences Maths B”, or equivalent secondary education with focus on Mathematics, and (though not common) Baccalaureate in “Sciences et Technologies Electriques or Sciences Economiques.”
- GAT or SAT.

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Bachelor of Science in Big Data Analytics

Program Overview

The Bachelor of Science in Big Data Analytics (BSBDA) program will introduce students to tools and approaches for storing, processing, visualizing and analyzing massive and streaming data. Students will learn how to create efficient distributed data pipelines, building systems that extract value out of big data.
Approach

Emphasizes learning by doing through course projects and use of state-of-the-art open source and proprietary industry-strength software tools and development platforms for practical learning and final projects.

Motivation

There is currently a growing shift in computer science from solving computation-intensive problems to addressing data-intensive processes. As businesses are becoming more and more customer-centric, big data analytics is becoming essential in business applications. It addresses many perspectives and involves the use of advanced techniques and tools of analytics using the massive data obtained from different and heterogeneous sources, with various structures. There is an immense potential in analyzing this massive data accumulated through the years. Big data analytics jobs have been growing continually over the last five years. “Market for Big Data Jobs Expected to Surge 30% By 2020.” (Big Data Showcase, Sep 18, 2018)

Acquired Skills

Graduates of the BSBDA will be able to:

1- Understand the principles behind efficient storage and processing of Big Data, its main frameworks and ecosystems.

2- Use and analyze the main analytical models and algorithms, to build Big Data systems that can transform data into value.

3- Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.

4- Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program’s discipline.

5- Communicate effectively in a variety of professional contexts.

6- Apply computer science theory and software development fundamentals to produce computing-based solutions.

7- Use Big Data Analytics frameworks, models, algorithms and tools to produce data-oriented products and services.
Career Opportunities

Big data analytics jobs have been growing continually over the last five years. “Market for Big Data Jobs are Expected to Surge 30% By 2020”, (Big Data Showcase, 2018).

Graduates of the BSBDA program will be able to work as:

- Big Data Engineer;
- Big Data Analyst;
- Data Scientist;
- Data Miner;
- Business Intelligence Engineer

Key Courses

In addition to Core Computer Science Courses, the program consists in specialization courses including the capstone project:

- Introduction to Big Data Environment and Applications
- Big Data Engineering and Visualization
- Statistical Analysis
- Big Data Analytics
- IoT and Big Data Streaming
- Machine Learning and Data Mining
- Data Warehousing

Who can Apply?

The program is open for graduates of Moroccan or International high schools interested in earning a degree in Big Data Analytics.

Usual criteria for admission to the School of Science and Engineering:

- Baccalaureate in “Sciences Physiques et Chimiques”, “Sciences Maths A”, or “Sciences Maths B”, or equivalent secondary education with focus on Mathematics, and (though not common) Baccalaureate in “Sciences et Technologies Electriques or Sciences Economiques.”
- GAT or SAT.

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Bachelor of Science in Cloud and Mobile Software Engineering

Program Overview

The Bachelor of Science in Cloud and Mobile Software Engineering (BSCMSE) program will help students design and develop enterprise-grade mobile and cloud applications using software engineering principles, modern design patterns, new paradigms of cloud computing, and web services. Students will learn how to build adaptable and scalable software solutions. They will also learn about modern development frameworks and middleware issues in the context of cloud computing.
Approach

Emphasizes learning by doing through course projects and use of state-of-the-art open source and proprietary full stack software tools and development platforms for practical learning and final projects.

Motivation

Cloud is the foundation for the new agile business world. Together with mobile apps, they are the platforms for enabling agile application development necessary for the digital transformation of enterprises. The markets for mobile and cloud application developments have been increasing steadily over the past ten years. “Mobile App Developer is the Fastest Growing Jobs.” (CNN Money, Jan 5, 2017)

Acquired Skills

Graduates of the BSCMSE will be able to:

1- Design and develop mobile and cloud application architectures to harness the power and flexibility of cloud-based web services.

2- Use the latest enterprise and cloud application development frameworks to build scalable software.

3- Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.

4- Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program’s discipline.

5- Communicate effectively in a variety of professional contexts.

6- Apply computer science theory and software development fundamentals to produce computing-based solutions.

7- Analyze, design, develop, deploy and maintain mobile application architectures to harness the power and flexibility of cloud-based web services and build scalable software.
Career Opportunities

Graduates of the BSCMSE program will be able to work as:

- Mobile Software Engineer
- Cloud Software Engineer
- Software Engineer
- Software Integration Engineer
- Information Systems Manager

Key Courses

In addition to Core Computer Science Courses, the program consists in specialization courses including the capstone project:

- Enterprise Application Architecture, Design and Development
- Mobile and Cloud Application Architecture, Design and Development
- Agile Software Engineering and DevOps
- Blockchain Business Application
- Software Project Management

Who can Apply?

The program is open for graduates of Moroccan or International high schools interested in earning a degree in Cloud and Mobile Software Engineering.

Usual criteria for admission to the School of Science and Engineering:

- Baccalaureate in “Sciences Physiques et Chimiques”, “Sciences Maths A”, or “Sciences Maths B”, or equivalent secondary education with focus on Mathematics, and (though not common) Baccalaureate in “Sciences et Technologies Electriques or Sciences Economiques.”
- GAT or SAT.

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Bachelor of Science in Cyber-Physical Systems

Program Overview

The Bachelor of Science in Cyber-Physical Systems (BSCPS) program combines electrical engineering with computer science to focus on the hardware and software for robust cyber-physical systems that respond to real-time events and culminates in a capstone design experience. Graduates of the BSEMB program will be prepared to pursue engineering careers with the new and modernized public utilities, industrial facilities, that will contribute solutions in line with Industry 4.0 to meet the growing demand for smarter, connected, electronic systems including the growing areas of IoT and smart (autonomous) vehicles with rolling stock designers and manufacturers such as Alstom, or to pursue graduate education.
Approach

The BSCPS program emphasizes learning by doing through course projects and use of state-of-the-art software tools, development platforms, IoT platforms for practical learning and final projects.

Motivation

This program comes in support to current governmental plans for industrial modernization and continuous investments in the aerospace and automotive industries, as well as investments in smart cities. Both aerospace and car manufacturing in Morocco will be in dire need for engineers mastering Industry 4.0 underlying technologies as highlighted in the Recommandation #11: “Intégrer les évolutions technologiques et les services dédiés dans l’ensemble des stratégies sectorielles de l’Etat : cloud, blockchain, intelligence artificielle, ainsi que l’ensemble des technologies autour de l’industrie 4.0”, in their proposal “Le digital, au cœur du modèle de développement,” for a new development model for Morocco. (APEBI, Dec 2019)

Acquired Skills

The BSCPS program aims to provide students with the capacity to develop practical skills and knowledge required to understand, design, analyze and implement embedded systems with possible integration for building fully functional autonomous systems.

Graduates of the BSCMSE will be able to:

1- Design, program and evaluate systems in real-time.
   Analyze, design, test and maintain complex embedded systems.

2- Describe, validate and optimize embedded electronic systems in different areas of industrial application.

3- Demonstrate ability to evaluate hardware and software requirements for communication and control applications.

4- Demonstrate understanding and ability to apply the properties of sensors for designing electronic systems that integrate measurement and behavior in different areas of industrial production.

5- Demonstrate the use of methods and tools for the development and refinement of programs implemented on microprocessors, microcontrollers, DSPs, and FPGAs.

6- Demonstrate understanding of the most suitable processing of signaling and the associated hardware.
Career Opportunities

Graduates of the BSCPS program will be able to work as:

- Cyber Systems Administrator
- Embedded Software Engineer
- Cyber Engineer
- Cyber Physical Systems Research Engineer

Key Courses

In addition to Core Computer Science Courses, the program consists in specialization courses including the capstone project:

- Embedded Systems
- IoT and Big Data Streaming
- Cyber Physical Systems
- Blockchain Business Applications
- Cloud Application Development
- Industrial Robotics

Who can Apply?

The program is open for graduates of Moroccan or International high schools interested in earning a degree in Cyber-Physical Systems.

Usual criteria for admission to the School of Science and Engineering:

- Baccalaureate in “Sciences Physiques et Chimiques”, “Sciences Maths A”, or “Sciences Maths B”, or equivalent secondary education with focus on Mathematics, and (though not common) Baccalaureate in “Sciences et Technologies Electriques or Sciences Economiques.”
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Bachelor of Science in Computer Systems

Program Overview

The Bachelor of Science in Computer Systems (BSCSys) program will provide students with a strong core understanding of the concepts of computation using modern software and hardware. The program will enable students to devise software, hardware and network solutions for a wide range of industry sectors. It will also allow students to learn about distributed systems and will prepare them for positions of administrators of various computer systems’ infrastructures and security specialists. Graduates of this program will be able to succeed in graduate programs in computer science or related fields.
Approach

The BSCSys program emphasizes learning by doing through course projects and use of state-of-the-art open source and proprietary software tools and platforms for practical learning and final projects.

Motivation

To support their business, all companies require in-house IT infrastructure expertise to provision, deploy, administer, maintain, optimize, and secure software, operating systems, datastore systems, data pipes, data centers, networks, virtual machines and/or cloud services.

Acquired Skills

Graduates of the BSCSys program will be able to:

1- Carry out advanced work in specific areas of computer science.

2- Perform hands-on work in computer science.

3- Learn and apply new techniques and technologies in computer science.

4- Succeed in graduate programs in computer systems and networking or related fields.

5- Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.

6- Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program’s discipline.

7- Communicate effectively in a variety of professional contexts.

8- Apply computer science theory and software development fundamentals to produce computing-based solutions.

9- Plan, analyze, develop, deploy, administer, maintain and secure software systems and services, with strong knowledge of the context including operating systems, hardware and networks.
Career Opportunities

Graduates of the BSCSys program will be able to work as:

- Computer Systems Infrastructure Administrator;
- Computer Network Engineer;
- Cyber-Security Engineer;
- Support engineer;
- System administrator;
- Embedded systems engineer
- System integration engineer

Key Courses

In addition to Core Computer Science Courses, the program consists in specialization courses including the capstone project:

- Distributed and Parallel Computing
- Systems Programming
- Cloud Computing
- Network Security
- Introduction to Big Data Environment and Applications
- Embedded Systems

Who can Apply?

The program is open for graduates of Moroccan or International high schools interested in earning a degree in Computer Systems.

Usual criteria for admission to the School of Science and Engineering:

- Baccalaureate in “Sciences Physiques et Chimiques”, “Sciences Maths A”, or “Sciences Maths B”, or equivalent secondary education with focus on Mathematics, and (though not common) Baccalaureate in “Sciences et Technologies Electriques or Sciences Economiques.”
- GAT or SAT.
Bachelor of Science in Engineering Decision Support Systems

Program Overview

The Bachelor of Science in Engineering Decision Support Systems (BSEDSS) aims to introduce students to use quantitative methods and techniques for effective decisions-making; model formulation from word problems into mathematical modeling and applications of analytic techniques, and computer packages to solve decision making problems facing business managers in a variety of decision environments.
Approach

The BSEDSS program emphasizes learning by doing through course projects and use of state-of-the-art software tools and labs for practical learning and final projects.

Motivation

As Morocco's economy modernizes and grows, businesses and industry alike will be looking to the optimization of performance, pricing, deployed resources, cost effectiveness, and/or operating time. On one hand are the simulation of what-if scenarios and impact analysis, and on the other, are major problems encountered by all businesses and industries particularly in the logistics, supply-chain, and manufacturing.

Acquired Skills

**MASTER THEORY OF:**
- Linear Programming (LP): Maximization and Minimization problems (Simplex Method).
- Problems of Assignment and Allocation of resources. Graph Theory applied to Decision Making.

**MASTER PRACTICE TO:**
- Understanding how to convert a real-world optimization problem, given in words, into mathematical formulation.
- Analyzing problems including the use of duality and complementary slackness.
- Formulating mathematical and algorithmic solutions to network problems using graph optimization algorithms, branch-and-bound and heuristic methods to solve general integer problems.
- Using Matlab/AMPL programming for solving optimization problems;
- Analyzing and interpreting results including complexity.
Career Opportunities

Graduates of the BSEDSS program will be able to work as:

- Optimization Engineers
- Decision Support Engineers
- Logistics and Distribution Engineers
- R&D Engineers
- Operations Engineer

Key Courses

In addition to Core Computer Science Courses, the program consists in specialization courses including the capstone project:

- Optimization and Operations Research
- Advanced Stochastic Systems
- Forecasting and Time Series
- Graph Theory
- Advanced Programming and Algorithms
- Industrial System Simulation
- Introduction to industry 4.0

Who can Apply?

The program is open for graduates of Moroccan or International high schools interested in earning a degree in Engineering Decision Support Systems.

Usual criteria for admission to the School of Science and Engineering:

- Baccalaureate in "Sciences Physiques et Chimiques", "Sciences Maths A", or "Sciences Maths B", or equivalent secondary education with focus on Mathematics, and (though not common) Baccalaureate in "Sciences et Technologies Electriques or Sciences Economiques."
- GAT or SAT.

For more information: Office of Admissions,
Al Akhawayn University,
P.O. Box 104, Ifrane 53000, Morocco
Phone: (+212)-535-862-075/78/86
Fax: (+212)-535-862-177 • E-mail: admissions@aui.ma

Apply online at www.aui.ma/admissions
Program Overview

The Bachelor of Science in Manufacturing and Logistics Engineering (BSMLE) is an Industrial project-based program, with knowledge application to real industry problem solving. The BSML aims to prepare students to monitor the integral supply chain management with respect to targeted goals. It will provide students with the tools needed to make decisions rigorously and effectively using computer programing, mathematical modelling, statistics and optimization.
Approach
The BSMLE program emphasizes learning by doing through course projects and use of state-of-the-art software tools and labs for practical learning and final projects.

Motivation
As Morocco’s economy grows, there is need for engineers with a global view on the supply chain of the enterprise, and with the capacity to understand the design of products, production lines, layouts with consideration of maintenance, reliability and quality.

Acquired Skills
Graduates of the BSMLE will be able to:
♦ Understand maintenance, reliability in production
♦ Learn how to deal with uncertainty in Logistics
♦ Get acquainted with software used in Logistics
♦ Monitor actual Supply chain management against set goals

Career Opportunities
Graduates of the BSMLE program will be able to work as:
- Supply Chain Manager
- Logistic Coordinator
- Manufacturing Engineer
- Maintenance and Reliability Engineer

Key Courses
In addition to Core Engineering and Management Courses, the program consists in specialization courses including the capstone project:
♦ Sustainable Manufacturing/Supply Chain Management and Sustainability
♦ Maintenance and Reliability
♦ Facility Design
♦ Transportation and Logistics
♦ Industrial Automation
♦ Introduction to Industry 4.0
Who can Apply?

The program is open for graduates of Moroccan or International high schools interested in earning a degree in Manufacturing and Logistics Engineering.

Usual criteria for admission to the School of Science and Engineering:

- Baccalaureate in “Sciences Physiques et Chimiques”, “Sciences Maths A”, or “Sciences Maths B”, or equivalent secondary education with focus on Mathematics, and (though not common) Baccalaureate in “Sciences et Technologies Electriques or Sciences Economiques.”
- GAT or SAT.

For more information: Office of Admissions, Al Akhawayn University, P.O. Box 104, Ifrane 53000, Morocco Phone: (+212)-535-862-075/78/86 Fax: (+212)-535-862-177 • E-mail: admissions@aui.ma

Apply online at www.aui.ma/admissions
Bachelor of Science in Renewable Energy Systems Engineering

Program Overview

The Bachelor of Science in Renewable Energy Systems Engineering (BSRESE) is a program that builds on a general engineering core and combines the technical issues involved by renewable energy storage and conversion, and the development of smart grids, with the necessary background in economics and the conventional technologies. The program culminates in an interdisciplinary capstone experience. Graduates of the Renewable Energy program will be prepared to pursue engineering careers with the new and modernized public utilities, industrial facilities, manufacturers - or to pursue graduate education.
Approach

The BSRESE program emphasizes learning by doing through course projects and use of state-of-the-art software tools and labs for practical learning and final projects.

Motivation

Renewable energy sector is set to cover 50% of Morocco’s energy needs by 2030. This is a very fast and growing and strategic sector that requires skilled engineers to drive this growth not only from the technical side, but also on the management and economy side.

Acquired Skills

Graduates of the BSRESE will be able to:
• Understand the key differences between renewable and non-renewable energy resources.
• Demonstrate an understanding of the different types of renewable energy technologies that are currently available, and how they are used to provide energy together with their limitations.
• Demonstrate the use of methods that predict the performance of renewable energy technologies in terms of cost, reliability and environmental impact.
• Analyze energy efficiency considering efficient energy management techniques, economics and social factors, using methods for energy audit in industrial and civil installations.
• Demonstrate understanding of the infrastructure and operations of renewable energy systems and their relationship to power generation, transmission, and distribution systems with their impact on society and environment.

Career Opportunities

Graduates of the BSRESE program will be able to work as:
• Energy Consulting Engineers
• Plant engineers
• Energy auditors
• Field service engineers
• Wind or CPV/ PVT Plant Operations engineers
• Wind or CPV/ PVT Plant maintenance engineers
• Smart grid integration engineers
Key Courses
In addition to Core General Engineering Courses, the program consists in specialization courses including the capstone project:

- Energy Management
- Energy Economics and Finance
- Energy Distribution Systems
- Renewable Energy Technologies
- Smart Grid and Grid-Connected System
- Environment, Sustainability, and Energy
- Conventional Energy Resources
- Energy Storage

Who can Apply?
The program is open for graduates of Moroccan or International high schools interested in earning a degree in Renewable Energy Systems Engineering.

Usual criteria for admission to the School of Science and Engineering:

- Baccalaureate in “Sciences Physiques et Chimiques”, “Sciences Maths A”, or “Sciences Maths B”, or equivalent secondary education with focus on Mathematics, and (though not common) Baccalaureate in “Sciences et Technologies Electriques or Sciences Economiques.”
- GAT or SAT.

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