

التخصص المزدوج في علوم الحاسبات

Double Major in Computer Science

وكالة الجامعة للشؤون الأكاديمية

Vice Presidency of Academic Affairs

مشروع الدرجات العلمية المخصصة

Self-assigned academic degrees Project

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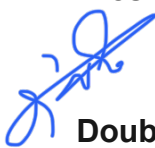
من الشمال...إلى الوطن

Declaration

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Program

Specification.....

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Northern Border University Overview

1. Foundation

Being the only university in the Northern Borders Region, Northern Border University enjoys a unique position in higher education in Saudi Arabia, which is why it holds the name of this precious region. The university plans are inspired by the region's rich values, culture, history, and location. We also ensure that our Strategic Plan 2020-2025 goes along with the region's rich natural resources, Vision 2030, and with the New University System, guided by the strategic priorities of the Northern Borders Region's Emirate.

The Northern Border University (NBU) traces its origin to the 1981 founding of the Intermediate College for Girls, which formed the nucleus of its present iteration. In 1987, the Intermediate College for Girls was renamed the Teachers' College, which also coincided with the awarding of its first Bachelor's degree. Seventeen years later, a College of Science in Arar and a community college in Rahfa were founded as extension campuses of the King Abdulaziz University in Jeddah. The College of Science housed five academic departments that included biology, chemistry, computer science, mathematics and physics while the community college included the departments of administrative sciences, computer science, engineering science, applied medical sciences, and basic sciences.

In 2007 during his historic visit to the Northern Border's Region, the late Custodian of the Two Holy Mosques King Abdullah bin Abdul Aziz declared the founding of the NBU through a royal decree. The nascent university amalgamated the previously established Teachers' College and both extension campuses of the King Abdulaziz University in Arar and Rafha. Soon after NBU's founding, a number of new colleges were founded. These colleges included: medicine, pharmacy, nursing, applied medical sciences, engineering, computer science, business administration, and community colleges dispersed over its main campus in Arar plus three branch campuses in Rafha, Turaif and Al-Owaigeelah. The nascent institution has gone through a period of rapid growth becoming a major transformative hub of knowledge and socioeconomic development in the Region.

[\[NBU-Strategic Plan – P6\]](#)

2. Vision

We aspire to become a distinguished and credible university, recognized for our academic programs based on building competency, research, innovation, and providing services across the region and the Kingdom. [[NBU-WEBSITE](#)]

3. Mission

We are a regionally serving, comprehensive university committed to educational excellence. Guided by our core values, heritage, and place, We deliver innovative educational programs characterized by outcomes that leverage the human, economic, cultural, and natural resources for the Northern Borders Region and beyond.

[[NBU-WEBSITE](#)]

4. Objectives

Table 1. NBU Objectives

UO1	Providing excellent education that sharpens intellect and professionalism.
UO2	Stimulating research and innovation following the university's research priorities.
UO3	Developing community partnership.
UO4	Developing an administrative and financial system that enhances management efficiency and diversifies sources of income.

[[NBU-WEBSITE](#)]

5. Graduate attributes



Figure 1. NBU- Graduate Attributes

6. Values

- Integrity.

- Community Engagement and Civic Responsibility.
- Accountability.
- Collaboration.

[\[NBU-Strategic Plan – P6\]](#)

College Overview

1. Foundation

The High approval was issued for establishing the Faculty of Science at the Northern Border University as a building block for higher education and part of the university campus. Enrollment in the Faculty of Science began in the academic year 1428/1427 H. It is the foundation on which the Northern Border University was built. It started with the departments of mathematics, physics, and computer science, and the departments of chemistry and biology were established after; each award Bachelor's Degree that takes four years to complete. The faculty has witnessed remarkable development at all academic levels and laboratories, accompanied by increased student numbers. It provides mathematics, chemistry, physics, statistics, and biology courses for the students of the faculty s of Medicine, Medical Sciences, Engineering, Literature, Pharmacy, and Computer Sciences. The faculty's departments have approximately 138 distinguished faculty members of national lecturers, recruits, and contractors of both sexes, as well as approximately 30 technicians, research assistants, and 20 staff members, each contributing to the educational process at the faculty. The faculty has several scientific laboratories with the latest equipment and tools to teach students. The faculty aims to prepare qualified graduates in basic sciences to work in the public and private sectors and provide innovative academic, scientific, and research consultations to the community. Following the planned direction of the Northern Border University to secure its place in the field of education and scientific research, the faculty is conducting a comprehensive review of its educational and research plans to keep up with the latest scientific developments to graduate students that meet the labor market needs. We aspire for the faculty's departments and units to be distinguished centers of scientific research, contributions, technical and economic progress of the Kingdom, and spreading science and knowledge by teaching sciences within the faculty's disciplines. The Faculty of Science is planning to develop new departments to play their role in the service of society as well as to activate graduate programs in different divisions and specialties.

2. Vision

Achieving excellence in education and scientific research in basic sciences and their applications to serve the community.

3. Mission

Providing educational programs in basic sciences and their applications and distinctive scientific research that meets the needs of the region and contributes to the development of society.

4. Objectives

- Providing educational programs in basic sciences and their applications that meet the labor market requirements.
- Increasing scientific research.
- Strengthening community partnership.
- Obtaining academic accreditation.

5. Scientific Departments

- Mathematics
- Physics
- Chemistry
- Computer Science
- Biology

Department Overview

1. Foundation

Northern Border University is considered an emerging educational institution in Saudi Arabia. It was established to meet the educational, research, and development needs of the Northern Borders region. Moreover, it ensures continued growth and progress by providing the best educational services to the Northern region's people, a desire to achieve its mission to advance society, rehabilitate its people to meet current and future needs, and contribute to Community Development. NBU was a branch of King Abdulaziz University, and it received the first independent budget for the fiscal year 1428/1429 AH. The King Abdulaziz University branch in the Northern Borders region started with the Colleges of Science in Arar and the Community in Rafha; thereafter, the Teachers College was attached to the university.

The royal approval was issued to establish the College of Science at the University of Northern Borders to be a basic building block in the edifice of higher education in the Northern Borders region. The study began at the College of Science in the academic year 1427-1428 AH. Where the College of Science is considered the nucleus on which the Northern Border University was based, it includes the departments of Computer Science, Mathematics, and Physics, followed by the opening of the Departments of Chemistry and Biology. Each of these programs grants a bachelor's degree in the specialization after a four-year study.

The Department of Computer Science, like other departments of College of Science, has witnessed remarkable development at all levels: academically and in terms of infrastructure, such as laboratories equipped with the latest equipment and classrooms, which led to the department's ability to increase the number of accepted students.

The Computer Science program is managed under the supervision of the Department Council at the College of Science.

The workflow of all departments is regulated by the College of Science Council, which is approved by the University Council and headed by the Dean of the College of Science at Northern Border University (NBU).

The program follows the executive regulations of all university boards and committees that adhere to fair and transparent policies and procedures.

The program is also committed to the university's quality assurance system where it is managed, followed up on its implementation, and quality committees are formed within the program by the Deanship of Quality and Academic Accreditation.

The Computer Science program is also committed to improving the quality of its educational processes, academic and research activities, and community service activities.

The program leadership believes that quality assurance and improvement processes should be the responsibility of all faculty members in the department. Therefore, the academic accreditation will be a by-product of the computer program's excellence in quality practices.

The Computer Science program adopted the program accreditation standards of the National Centre for Academic Accreditation and Assessment (NCAAA) as a framework of reference for all quality management practices and accreditation of academic programs.

After the university obtained institutional academic accreditation, it sought to accredit all academic programs. It developed a plan consisting of two phases; in the first phase, five programs must be approved at the end of 2021 AD, and in the second phase, all of its 29 programs must be approved by the end of 2025 AD. So that these programs are compatible with the requirements of the labor market and the standards of the NCAAA.

2. Vision (if exist)

To be one of the leading programs that achieve excellence in educational performance and scientific research in computer science.

3. Mission (if exist)

Providing high-quality computer science education, producing well-prepared graduates who are confident in their abilities to serve their society, and gain scientific skills such as scientific research; to keep up with ongoing developments in computer science.

4. Objectives (if exist)

- To provide students with up-to-date information, skills, and technologies in Computer Science
- To enhance students' critical thinking, problem-solving, lifelong learning, and research and teamwork skills.
- To prepare students for the labor market with the required professional skills and ethical code in computer science.
- To participate in community service activities.

5. Academic Programs and Degrees Awarded from department of Computer Science

Table 2. Academic Programs and Degrees Awarded

Code	Program Name	Track /Exit Point (if exist)	Degree Awarded
B11CSCS	Computer Science	General	B. SC. In computer Science
		Software Engineering	B. SC. In computer Science- Software Engineering
		Game Development	. B. SC. In computer Science- Game Development g
		Cloud Computing	B. SC. In computer Science- Cloud Computing
M11CSMCY	Master of Cybersecurity		Master of Computer Science- Cybersecurity
M11CSMAI	Master of Artificial Intelligence		Master of Computer Science- Artificial Intelligence

* تضاف كافة البرامج التي تقدم من القسم العلمي لكافة الدرجات العلمية (ماجستير/ بكالوريوس/ تجسير/ دبلوم متوسط/ تخصص مزدوج/ تخصص فرعي)

Program Overview

1. Mission

To provide quality education of computer science by a combination of theoretical and applied foundations, that enables students to solve real-world problems, conduct scientific research in the field, and prepare them for employment and to serve the local community.

2. Objectives

1. Create a distinct academic environment to increase the competitiveness of the students in the Computer Science program.
2. Enable the student to recognize the limits of their knowledge and initiate self-directed learning opportunities.
3. Prepare students to satisfy the labor market needs and community services in the field of computer Science.

3. Curriculum Structure

Table 3. Curriculum Structure

Program Structure	Required/ Elective	No. of courses	Credit Hours	Percentage
Program Requirements	Required	12	36	%92.0
	Elective	0	0	%0.0
Capstone Course/Project (If any)	Requires	1	3	%8.0
Field Training/ Internship (If any)				%0.0
Total		13	39	%100.0

4. Study Plan

Table 4. Study Plan

Course Code	Course Title	R/E	Pre-Requisite Courses Code	Credit Unit	Contact Unit			Type of Requirements	Course Name in Arabic
					Theory	Lab	Other		
CS101	Programming Fundamentals	R		3	2	2		Program	أسس البرمجة
CS202	Object Oriented Programming	R	CS101	3	2	2		Program	البرمجة الشيئية
CS203	Data Structures	R	CS101	3	2	2		Program	هياكل البيانات
CS221	Design and Analysis of Algorithms	R	CS202	3	2	2		Program	تحليل وتصميم الخوارزميات
CS240	Database	R	CS202	3	2	2		Program	قواعد بيانات
CS305	Web programming	R	CS240	3	2	2		Program	برمجة الويب
CS311	Computer organization and Architecture	R	CS202	3	2	2		Program	تنظيم و بنيت الحاسب
CS312	Operating Systems	R	CS211	3	2	2		Program	نظم التشغيل
CS350	Software Engineering	R	CS240	3	2	2		Program	هندسة برمجيات
CS370	Computer Networks	R	CS221	3	2	2		Program	شبكات الحاسب
CS471	Cyber Security	R	CS370	3	2	2		Program	الأمن السيبراني
CS474	Artificial Intelligence	R	CS221	3	2	2		Program	الذكاء الاصطناعي
CS498	Graduation Project 2	R	Department Approval	3	1	2	2	Program	مشروع تخرج 2
Total				39	25	26	2	الإجمالي	

R/E: Required/ Elective. Type of requirements: Institution/ College/ Program. Other: can be Tutorial/Clinical

5. Degree(s) Awarded.

The student obtains a double major in **Computer Science** after completing 39 credit hours.