

Republic of Iraq
Ministry of higher education & scientific research Supervision and scientific
evaluation directorate
Quality assurance and academic accreditation

Academic Program Specification Form for the Academic

University: Northern Technical University
College: Technical Engineering College - Kirkuk
Department: Architecture and Construction Technical Engineering
Date of Form Completion: 18/2/2024

Dean's Name

Dean's Assistant for Scientific Affairs

Head of Department



أ. د. د. كيلان عصمت صفاء الدين
رئيس قسم تقنيات هندسة العمارة والبناء

Date: / /

Date: / /

Date: / /

Signature

Signature

Signature

Quality Assurance and University performance manager

Date: / /

Signature

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

PROGRAMME SPECIFICATION

This Programmer Specification provide a concise summary of the features of the programmer and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she take full advantage of the learning opportunities that are provide. It is supported by a specification for each course that contributes to the programmer.

1.Teaching Institution	Northern Technical University/ Technical College of Kirkuk
2.University Department/Centre	Surveying Technical Engineering
3.Programme Title	Surveying Technical Engineering
4.Title of Final Award	Bachelor of Surveying Technical Engineering
5.Modes of Attendance offered	Annual and Courses
6.Accreditation	Ministry of Higher Education Scientific Research
7.Other external influences	Non
8.Date of production of this specification	7/1/2024
9.Aims of the Programmer	Graduating qualified personnel to carry out the work of the field surveying, aerial surveying, remote sensing techniques, leveling works of the natural land surface features, including the modern industrial zone and modern devices (complete station, full station) and equipment, the global navigation and surveying (GPS, DGPS) and being able to maintain and maintain the devices. In addition, the preparation and mapping of topographical, cadastral, thematic, and detail. As well as the use of geographical information systems (GIS) in order to build a database and produce digital messages in various fields. Striving to develop the skills, scientific and scientific capabilities of the department's engineers and technicians, and put them in developmental courses in a way that makes them positive for surgical tools.

10. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Knowledge and Understanding

- Ability and knowledge to work on all aspects of surveying

B. Subject-specific skills

- B1. Work on surveying projects.**
- B2. Creating networks of ground control points.**
- B3. Making cadastral maps.**

Teaching and learning Methods

Theoretical and practical lectures, field training, laboratory operation, workshops and summer training during the summer vacation period.

Assessment method

Daily, Monthly, Final examination, weekly reports and discussing graduation research projects.

C. Thinking Skills

- C1. Preparing educational cadres that can be relied upon in state institutions within the specialty.**
- C2. Developing solutions to the problems faced by institutions and systems specialized in the field of surveying.**

Teaching and Learning Methods

Courses and seminars

Assessment methods

Daily , Monthly , and Final examination .

D. General and Transferable Skills (other skills relevant to employability and personal development)

D1. Team works skills

D2. Computing and Internet skills

D3. English Lagrange skills

D4. Leadership and taking the responsibility skills

D5. Self learning and lifelong learning

Teaching and Learning Methods

Theoretical and practical lectures, field training, laboratory operation, workshops and summer training during the summer vacation period.

Assessment Methods

Daily, Monthly, and Final examination

Program Structure

Semester	No .	Module Code	Module Name in English	اسم المادة الدراسية
One	1	SUE101	Surveying Fundamentals	اساسيات المساحة
	2	TECK10 3	Workshop	المعامل (الورش)
	3	SUE102	Geology of Minerals and Rocks	جيولوجيا المعادن والصخور
	4	SUE103	Descriptive Engineering	الهندسة الوصفية
	5	NTU101	English Language	اللغة الانكليزية
	6	NTU100	Human Right	الديمقراطية وحقوق الانسان

Semester	No .	Module Code	Module Name in English	اسم المادة الدراسية
Two	1	SUE105	Plane Surveying	المساحة المستوية
		TECK10 4	Physics	الفيزياء
	3	TECK10 2	Drawing Engineering	الرسم الهندسي
	4	TECK10 1	of calculus Principles	مبادئ تفاضل وتكامل
	5	NTU102	Computer Fundamentals	مبادئ الحاسوب
	6	NTU104	Arabic Language	اللغة العربية

Semester	No .	Module Code	Module Name in English	اسم المادة الدراسية
Three	1	SUE201	Survey Methods	الطرق المساحية
	2	TECK201	Differential Equations	معادلات تفاضلية
	3	SUE203	Engineering surveying	المسح الهندسي
	4	SUE202	Fundamentals of Photogrammetry	اساسيات المسح التصويري
	5	SUE104	Geological Engineering	الجيولوجيا الهندسية
	6	NTU104	Arabic Language	اللغة العربية
			NTU102	Computer Fundamentals

Semester	No.	Module Code	Module Name in English	اسم المادة الدراسية
Four	1	SUE206	Topographic Surveying	المساحة الطبوغرافية
	2	SUE207	Digital Photogrammetry	المسح التصويري الرقمي
	3	SUE204	Cartography	علم الخرائط
	4	SUE205	Statistical Engineering	الاحصاء الهندسي
	5	SUE208	Principles of Civil Engineering	مبادي الهندسة المدنية
	6	NTU201	Professional Ethics	اخلاقيات المهنة

Semester	No .	Module Code	Module Name in English	اسم المادة الدراسية
Five	1	SUE301	Digital maps	الخرائط الرقمية
	2	TECK300	Engineering and Numerical Analysis	التحليلات الهندسية والعديدية
	3	SUE302	Cadastral Surveying	المسح الكادسترائي
	4	SUE303	Programing with python	البرمجة بلغة البايثون
	5	SUE304	Errors Theory and Adjustments	نظرية الاخطاء والتصحيح
	6	NTU300	English Language	اللغة الانكليزية

Semester	No.	Module Code	Module Name in English	اسم المادة الدراسية
Six	1	SUE309	Engineering Transportation and design	هندسة الطرق و التصميم
	2	SUE305	Quantitative Surveying and Specifications	المسح الكمي و المواصفات
	3	SUE306	Geographic Information Systems	نظم المعلومات الجغرافية
	4	SUE307	Applications of programming	تطبيقات البرمجة
	5	SUE308	Image processing and intelligent systems	المعالجة الصورية والانظمة الذكية
	6	TECK30 2	Summer Training 2	التدريب الصيفي 2

Semester	No.	Module Code	Module Name in English	اسم المادة الدراسية
Seven	1	NTU410	Scientific Research Methodology	منهجية البحث العلمي
	2	SUE409	Engineering Project Management	ادارة المشاريع الهندسية
	3	SUE403	Geodetic surveying	المساحة الجيوديسية
	4	SUE402	Optical Remote sensing	التحسس النائي المرئي
	5	SUE404	Instruments Calibration	معايرة الأجهزة
			NTU400	English Language

Semester	No.	Module Code	Module Name in English	اسم المادة الدراسية
Eight	1	SUE410	Final Graduation Project	مشروع التخرج النهائي
	2	SUE405	Global Navigation Satellite System (GNSS)	النظم العالمية للملاحة
	3	SUE406	Surveying Instruments Maintenance	صيانة الاجهزة المساحية
	4	SUE407	Radar Remote sensing	التحسس النائي الراداري
	5	SUE408	City Planning & Traffic	تخطيط المدن والمرور

13. Personal Development Planning

- 1- Self learning
- 2- Scientific seminars and symposium
- 3- Scientific researching and publishing papers
- 4- Trainee courses outside and inside the country

14. Admission criteria

- High school section
- The average degree

15. Key sources of information about the programme

- 1- Book and textbook
- 2- Scientific catalogues
- 3- Scientific research and publishing paper
- 4- Internet

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provide a concise summary of the main features course and the learning outcomes that a typical student might reasonably expected to achieve and demonstrate if he/she take advantage of the learning opportunities that are provided. It should be cross-referenced with the specification

1. Teaching Institution	Northern Technical University/ Technical College of Kirkuk
2. University Department/Center	Northern Technical University
3. Course title/code	Town planning
4. Programme (s) to which it contributes	
5. Modes of Attendance offered	
6. Semester/Year	2023-2024
7. Number of hours tuition(total)	
8. Date of production/revision of this specification	7/1/2024
9. Aims of the Course	
The concept of city planning and basic designs, types and levels of planning, preparing and surveying land uses and types of surveys, city planning, urban renewal and environmental planning, types of roads, parking lots and intersections, railways and airports, the role of cadastral work in developing basic city designs, planning theories and planning schools and Stages of the planning process, the emergence of cities and types of cities, developing the general plan of the city, concepts and basics of transportation and traffic engineering, and source and destination studies.	

10. Learning Outcomes , Teaching, Learning and Assessment Methods

A. Knowledge and Understanding

Town planning concept and basic designs

B. Subject-specific skills

Preparing and surveying land uses and types of city planning surveys.

Teaching and Learning Methods

Theoretical and practical lectures, field training, laboratory operation, workshops and summer training during the summer vacation period.

Assessment methods

Daily, Monthly, Final examination and weekly reports

C. Thinking Skills

Dealing with maps and developing the general plan of the city

Teaching and Learning Methods

Theoretical and practical lectures, field training, laboratory operation, workshops and summer training during the summer vacation period.

Assessment methods

Daily , Monthly , Final examination and weekly reports

D. General and Transferable Skills (other skills relevant to employability and personal development)

- D1. Team work skills
- D2. Computing and Internet skills
- D3. English Lagrange skills
- D4. Leadership and taking the responsibility skills
- D5. Self-learning and lifelong learning

11. Course Structure

Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
Non	Non	Non	Non	Non	Non

12. Infrastructure

Required reading: - CORE TEXTS - COURSE MATERIALS - OTHER	Non
Special requirements (include for example workshops, periodicals, IT software, websites)	Research, the Internet, scientific journals
Community-based facilities (include for example, quest, lectures, internship, field studies)	Research, the Internet, scientific journals

13. Admissions

Per-requisites	High School section, outstanding student in the institute
Minimum number of students	15
Maximum number of students	35

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW:PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provide a concise summary of the main features course and the learning outcomes that a typical student might reasonable expected to achieve and demonstrate if he/she take advantage of the learning opportunities that are provided. It should be cross-referenced with the specification

1.Teaching Institution	Ministry of higher education & scientific research
2.University Department/Center	Northern Technical University
3.Course title/code	Plane Surveying
4.Programme (s) to which it contributes	
5. Modes of Attendance offered	
6. Semester/Year	2023-2034
7. Number of hours tuition(total)	
8.Date of production/revision of this specification	7/1/2024
9. Aims of the Course	
The module aims to provide students with a comprehensive understanding of Plane Surveying, Depending on the purpose and scope of the survey	

10. Learning Outcomes , Teaching, Learning and Assessment Methods

A. Knowledge and Understanding

A1- Concepts of different surveying devices

A2- Concepts of field survey work

B. Subject-specific skills

B1 - Preparing different survey reports for various practical experiments

B2 - Preparing cadastral calculations, ribbing, projecting, elevation, and others

Teaching and Learning Methods

E-learning, blended learning, teaching by means of in-person lectures

Assessment methods

Daily , Monthly , Final examination and weekly reports

C. Thinking Skills

Dealing with the basic principles of surveying and seeking to apply them

Teaching and Learning Methods

E-learning, blended learning, teaching by means of in-person lectures

Assessment methods

Daily , Monthly , Final examination and weekly reports

D. General and Transferable Skills (other skills relevant to employability and personal development)

D1- training

D2 - Student courses and seminars on modern space applications

D 3- Field visits to vital and construction facilities

D 4- Coordination with the various state departments to exchange skills

11. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
Non	Non	Non	Non	Non	Non

12. Infrastructure	
Required reading: - CORE TEXTS - COURSE MATERIALS - OTHER	Course Books
Special requirements (include for example workshops, periodicals, IT software, websites)	workshops
Community-based facilities (include for example, quest, lectures, internship, field studies)	Summer training, quits lechers

13. Admissions	
Per-requisites	High School section , outstanding student in the institute
Minimum number of students	15
Maximum number of students	35

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provide a concise summary of the main features course and the learning outcomes that a typical student might reasonably expected to achieve and demonstrate if he/she take advantage of the learning opportunities that are provided. It should be cross-referenced with the specification

1.Teaching Institution	Northern Technical University/ Technical College of Kirkuk
2.University Department/Center	Northern Technical University
3.Course title/code	Photogrammetry
4.Programme (s) to which it contributes	
5. Modes of Attendance offered	
6. Semester/Year	2023-2024
7. Number of hours tuition(total)	
8.Date of production/revision of this specification	7/1/2024
9. Aims of the Course	
Introduce the student to the science of photogrammetry and how to solve complex equations in analytical photogrammetry using the least squares method	
And learn about the techniques and photogrammetry software that have made analytical photogrammetry a commonly used technique.	

10. learning outcomes teaching, Learning and Assessment Methods

A\ Knowledge and Understanding

A1- Analytical photogrammetry concept

A2- The use of analytical photogrammetry in the production of maps

B- Subject- specific skills

B1 - Take measurements from aerial photographs

B2 - Using software to produce maps from aerial photographs

Teaching and learning methods

Giving theoretical and practical lectures, field training, running laboratories, workshops and summer training during the summer vacation period.

Assessment Methods

Daily exams, quarterly exams (theoretical + practical) - discussion of periodic reports, discussion of graduate research projects

C- Thinking Skills

C1 Able to draw and prepare maps by taking measurements from aerial photographs, solving complex mathematical equations, and applying software

Teaching and learning methods

Giving theoretical and practical lectures, field training, running laboratories, workshops and summer training during the summer vacation period.

Assessment Methods

Daily exams, quarterly exams (theoretical + practical) - discussion of periodic reports, discussion of graduate research projects

D- General and transferred skills (other skills related to employability and personal development).

D1- Possess knowledge of photogrammetry and its practical applications in map production

<i>Infrastructure</i>	
<i>Required Course Books</i>	Course Books
Main references (sources)	reference books
Recommended books and references (scientific journals, reports,....)	Research, internet, scientific journals
B - Electronic references, Internet sites ...	Research, internet, scientific journals

Course Development Plan
field studies