Ministry of Higher Education and Scientific Research

Scientific Supervision and Scientific Evaluation Apparatus

Directorate of Quality Assurance and Academic Accreditation

Accreditation Department

Academic Program and Course Description Guide

2024-2025

Ministry of Higher Education and Scientific Research
Scientific Supervision and Evaluation Authority
Quality Assurance and Academic Accreditation Department

Description of the academic program for colleges and institutes

University: Southern Technical University
College/Institute: Basra Technical Institute
Practical section: Surveying techniques
File filling date: 4/5/2025

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The introduction:

The educational program is a coordinated and organized package of courses that include procedures and experiences organized in the form of study vocabulary, the main purpose of which is to build and refine the skills of graduates, making them qualified to meet the requirements of the labor market. It is reviewed and evaluated annually through internal or external audit procedures and programs, such as the external examiner program.

The academic program description provides a brief summary of the main features of the program and its courses, indicating the skills that students are working to acquire based on the objectives of the academic program. The importance of this description is evident because it represents the cornerstone in obtaining program accreditation, and the teaching staff participates in writing it under the supervision of the scientific committees in the scientific departments.

This guide, in its second version, includes a description of the academic program after updating the vocabulary and paragraphs of the previous guide in light of the developments and changes in the educational system in Iraq, which included a description of the academic program in its traditional form (annual, semester) in addition to adopting the description of the academic program circulated pursuant to the letter of the Department of Studies TM3/2906 dated 5/3/2023 regarding programs that adopt the Bologna process as a basis for their work.

In this regard, we cannot but emphasize the importance of writing a description of academic programs and courses to ensure the smooth running of the educational process.

Concepts and terms:

Academic Program Description:The academic program description provides a concise summary of its vision, mission and objectives, including a precise description of the targeted learning outcomes according to specific learning strategies.

Course Description:Provides a concise summary of the main characteristics of the course and the learning outcomes expected of the student, demonstrating whether the student has made the most of the learning opportunities available. It is derived from the programme description.

Program vision: An ambitious vision for the future of the academic program to be an advanced, inspiring, motivating, realistic and applicable program.

Program message: It briefly explains the objectives and the activities required to achieve them, and it also identifies the paths and directions of the programme's development.

Program objectives: These are statements that describe what the academic program intends to achieve within a specific period of time and are measurable and observable.

Curriculum structure: All courses/subjects included in the academic program according to the approved learning system (semester, year, Bologna track) whether they are required (ministry, university, college and scientific department) with the number of academic units.

Learning outcomes:A compatible set of knowledge, skills and values acquired by the student after successfully completing the academic program. The learning outcomes for each course must be determined in a way that achieves the program's objectives.

Teaching and learning strategies: It is the strategies used by the faculty member to develop the teaching and learning of the student and they are plans that are followed to reach the learning objectives. That is, it describes all the classroom and extracurricular activities to achieve the learning outcomes of the program.

1. **Program vision**
Preparing a technical educational program that keeps pace with scientific developments in construction and building, to be a distinctive and distinctive mark in terms of the quality of the outputs necessary for the success of intermediate technical cadres in performing their role in the progress of projects.

2. **Program message**

Working to prepare a specialized technical cadre in the field of construction and building, equipped and armed with knowledge, science and professional ethics in a manner consistent with the spirit of the times and the development taking place in the field of construction, while taking into account the requirements of the labor market.

3. Program objectives

1 .Preparing qualified technical personnel with the knowledge and practical skills in the fields of surveying, mapping, and geographic information systems (GIS).

2 .Enabling students to use modern technologies in land surveying, aerial photography, and remote sensing.

3 .Developing students' abilities to analyze spatial data and produce accurate and efficient digital maps.

4 .Enhancing engineering thinking and problem-solving related to surveying and urban projects.

5 .Establishing the principles of teamwork, professional responsibility, and adherence to professional ethics in engineering fields.

6. Preparing graduates for the labor market in government departments and private sector companies operating in the fields of surveying, planning, and infrastructure.

4. Programmatic accreditation

Not Found

5. Other external influences

Field visits to work projects within the geographical area, taking into account the selection of projects that contain modern methods of implementation in terms of construction style, structural elements, and materials used.

6. Program Structure

comments *	percentage	Study unit	Number of courses	Program Structure

Graduation project is an annual course.	89.26 Specialize topics 7.44 Helper topics 3.30 General topics	47 first stage 55The second stage	17 first stage 16 Stage Two	**Institutional Requirements**
	Two months for the first stage			**Summer training**
				Other

* Notes may include whether the course is basic or optional.

7. Program Description

Credit hours		Course name	Course code	Year/Level
practical	theoretical			
4	2	Surveying/1		2024-2025 First year Semester One
2	2	Aerial photogrammetry/1		
-	2	Remote Sensing/1		
-	2	Quantity Survey/1		
-	2	Mathematics/1		
-	1	Earth surface science		
2	-	Computer Basics/1		
-	2	English/1		
3	-	Workshop		
11	13			the total
Credit hours		Course name	Course code	Year/Level
practical	theoretical			
4	2	Surveying /2		2024-2025 / First year - Second semester
2	2	Aerial photogrammetry/2		
-	2	Remote Sensing/2		
-	2	Quantity Survey/2		
-	2	Mathematics/2		
2	-	Computer engineering drawing		
-	2	Human rights and democracy		
3	-	Workshop		
11	12			the total
Credit hours		**Course name**	**Course code**	**Year/Level**

practical	theoret ical			
4	2	Advanced Surveying /1		2024-2025 Second year Semester One
2	2	Digital photogrammetry/1		
2	2	Engineering survey		
2	2	Mapping Technology/1		
3	1	Geographic Information Systems		
2	-	Computer Basics/2		
-	2	English/2		
2	-	Graduation project		
16	11			the total
Credit hours		**Course name**	**Course code**	**Year/Level**
theoretical	theoret ical			
4	2	Advanced Surveying /2		2023-2024 Second year Semester Two
2	2	Digital photogrammetry/2		
2	2	cadastral survey		
2	2	Maps Technically/2		
3	1	Global Navigation Satellite System		
3	-	Surveying programs		
2	-	Graduation project		
17	9			the total

8. **Expected learning outcomes of the program**
Knowledge
1- Enabling students to acquire knowledge, understanding, principles, theories and fundamentals in civil specializations.
2- Enabling students to understand modern advanced scientific and practical topics in technical civil specializations.
3- To familiarize students with the most important computer software used in the field of civil specializations.
4- Enabling students to understand the basics of the operation of laboratory devices used in the examination and evaluation of materials used in construction and the quality of completed buildings, and how to work on these laboratory devices and perform tests on them.
Skills
1- Ability to read and prepare construction engineering drawings.

2- Ability to perform laboratory experiments according to standard technical specifications.
3- The ability to write and formulate technical engineering reports on the results of scientific examinations and tests and the ability to deduce the results and their effects from the test.
4- Developing students' abilities to participate in analyzing problems and finding appropriate solutions.
5- Developing communication skills so that the graduate can be a link between the worker and the advanced engineering staff.
Values
1- Developing the spirit of cooperation and teamwork
2- Emphasizing professional ethics and appropriate methods of dealing

9. **Teaching and learning strategies**
1. Theoretical lectures. 2. Scientific discussions. 3. Working in groups. 4. Practical lectures in engineering laboratories. 5. Scientific seminars and presentation of the latest scientific developments in the specialization by students. 6. Scientific trips to the actual work site and exposure to the most important problems and applications in the field of civil specializations within the actual work reality. 7. Graduation projects for final year students..

10. Evaluation methods

1. Monthly or quarterly written exams.
2. Quick exams.
3. Writing scientific and practical reports.
4. Writing reports on the most important engineering matters observed during scientific trips.
5. Scientific seminars.
6. Homework.
7. Graduation project discussion committees for final year students.

11. Faculty

Faculty members

Number of the teaching staff		Special requirements/skills (if any)		Specialization		Academic Rank
lecturer	**staff**			**special**	**general**	
	1			Structure	civil	Lecturer
	3			general	Surveying	Assistant Lecturer
	1			soil	civil	Assistant Lecturer
1	1			general	mathematics	Assistant Lecturer
1					law	Lecturer
1				general	English	Assistant Lecturer
3	8					the total

Professional development

Mentoring new faculty members

1. Introducing new faculty members to the department's activities and its programme and involving them in the department's scientific committees.

2. Keeping up with the implementation of the department's programme by clarifying developments

Professional development for faculty members

1. Student opinion survey at the end of each semester on several personal development topics.
2. Survey faculty members' opinions at the end of each semester on the best ways to develop courses and their teaching methods.
3. Conducting development and training courses to deliver up-to-date information worldwide regarding teaching and curricula.
4. Coordinating with the Quality Assurance Department at the Institute and the University to follow up on the implementation of the academic program in the department and ways to develop it.

12. Acceptance Criteria

First: Admission requirements to the institute

1. Approval of admission requirements for students according to the regulations of the Ministry of Higher Education and Scientific Research (central admission).
2. To successfully pass any special test or personal interview deemed necessary by the Council of the Institute or University.
3. To be medically fit for the specialty applied for.

Second: Admission requirements to the scientific department

1. The student chooses his desire from more than one desire arranged according to preference.
2. High school acceptance rate.
3. The average of the course in which the student wishes to study.
4. The capacity of the scientific department.

13. The most important sources of information about the program

14.	Program development plan

1. Updating curricula to keep pace with developments in the field of specialization.
2. Adoption of modern specialized software.
3. Continuously updating laboratories in line with the development of equipment, methods and tools in the field of construction.

Program Skills Chart														
Required learning outcomes of the program														
	Values	Skills					Knowledge				Essential or optional?	Course name	Course code	Year/Level
C2	C1	B5	B4	B3	B2	B1	A4	A3	A2	A1				
√	√	√	√	√	√		√		√	√	My specialty	Area/1		2024-2025 First year
√	√	√	√						√	√	My specialty	Aerial photogrammetry/1		
√	√	√	√	√	√	√	√		√	√	My specialty	Remote Sensing/1		
√	√	√	√	√	√		√		√	√	My specialty	Quantity Survey/1		
√	√	√	√								assistant	Mathematics /1		
√	√	√	√			√		√	√	√	assistant	Earth surface science		
√	√	√	√					√			assistant	Computer Basics/1		
√	√	√	√					√			General	English/1		
√	√	√	√					√	√	√	General	Workshop		
√	√	√	√	√	√		√		√	√	My specialty	Advanced Space/2		2024-2025 Second year
√	√	√	√	√	√		√	√	√	√	My specialty	digital photogrammetry		
√	√	√	√	√	√		√		√	√	My specialty	Engineering survey		
√	√	√	√			√		√	√	√	My specialty	Mapping techniques		
√	√	√	√	√	√	√	√	√	√	√	My specialty	Geographic Information Systems		
√	√	√	√			√		√	√	√	assistant	Computer Basics		
√	√	√	√						√	√	General	English/2		
√	√	√	√						√	√	My specialty	Graduation project		

Course Description First Semester/First Year

1. Course name:	
Surveying / 1	
2. Course code:	
3. Chapter/Year:	
First semester / first year	
4. Date this description was prepared:	
10/10/2024	
5. Available attendance forms:	
Dealing with all available possibilities for the purpose of delivering and educating students.	
6. Number of study hours (total) / Number of units (total):	
90 hours per year (2 theoretical + 4 practical over 30 weeks) / 6 units	
7. Name of the course administrator (if more than one name is mentioned)	
Name: Louay Muzahim Abdul Karim Email:Luay.abdulkareem@stu.edu.iq	
8. Course objectives	
The aim of studying surveying is for the student to understand the basics of flat area and find relationship between the location of points near or above the surface of the earth and to be able to meas the horizontal and vertical distance of the observed target. Calculating areas and volumes from field data providing students with information on drawing maps that show longitudinal and transverse sections of roads canals and preparing contour maps.	
9. Teaching and learning strategies	
The teaching and learning strategy is based on teaching the student all t skills to carry out all surveying work with the help of surveying equipm and related Indian software.	**Strategy**
10. Course structure	

Evaluation method	Learning method	Name of the unit or topic	Required learning outcomes	Watches	The week
Live through questions, participation and reports	theoretical aspect And get to know Devices	Introduction to spa	Identify the space Level and area Geodesy	6	the first
Live through questions, participation and reports	Theoretical side an side practical	Units of measurement	Get to know the unit Length and area Size in French and English system	6	the second
Live through questions, participation and reports	Theoretical side an side practical	drawing scale	Learning on the scal Linear, comparative and network	6	the third
Live through questions, participation and reports	Theoretical side an side practical	Distance measurement	Measuring distance flat and uneven grou	6	Fourth
Live through questions, participation and reports	Theoretical side an side practical	Measure the slant distance	Measuring the slant distance on a regular and irregular surface Regular	6	Fifth

Live through questions, participation and reports	Theoretical side and side practical	Engineering operations	erecting columns in different ways	6	Sixth
Live through questions, participation and reports	Theoretical side and side practical	Potential Obstacles	Possible obstacles during distance measurement	6	Seventh
Live through questions, participation and reports	Theoretical side and side practical	Clear area details	Learn how to create polygon and padding	6	The eighth
Live through questions, participation and reports	Theoretical side and side practical	Settlement	Learn how to determine and measu levels for points.	6	Ninth
Live through questions, participation and reports	Theoretical side and side practical	Complete the settlement	The purpose of leveling, degrees of accuracy, the leveling device, and how to handle and use it	6	tenth
Live through	Theoretical side and side practical	Completing calculation method	Learn how to calculate using the rise and fall	6	eleventh

questions, participat ion and reports			method and compare them		
Live through questions, participat ion and reports	Theoretical side ar side practical	Vertical closing er	Learn how to detect a lockout error and how to correct it.	6	twelfth
Live through questions, participat ion and reports	Theoretical side ar side practical	Longitudinal and cross sections	Learn about all types of cross sections and longitudinal sections and how to deal with them.	6	thirteenth
Live through questions, participat ion and reports	Theoretical side ar side practical	section drawing	Learn how to draw cross and longitudinal sections.	6	fourteenth
Live through questions, participat ion and reports	Theoretical side ar side practical	Contour period	Learn how to make contour maps.	6	fifteenth

11. Course Evaluation

Final Exam	striving	Second semester exam	Chapter One Quest
50 degrees	50 degrees	10 reports and research	10 degrees reports and research
		20 monthly exams	20 marks monthly exam
		20 practical degrees	20 practical degrees

12. Learning and teaching resources
1 - Raymond E. Davis Joe Wkelly. Elementary plan surveying.
2 - Ziad Abdul Jabbar Al-Bakr, Ibrahim Daoud Alwan, practical area.
3 - Razan Ibrahim 2011, Fundamentals of Surveying, Amman - Community Library.
4- Yousef Siam 2001, Faculty of Engineering, University of Jordan.
5 - Yassin Obaid Ahmed 1990 Engineering Surveying - Faculty of Engineering, Bahou University.

1. Course name:
Remote Sensing/1
2. Course code:
3. Semester/Year: Annual
My semester / first year
4. Date this description was prepared:
10/13/2024
5. Available attendance forms:
My presence
6. Number of study hours (total) / Number of units (total):
60 hours per year (2 theoretical hours over 30 weeks / 4 units (2 units per semester)
7. Name of the course administrator (if more than one name is mentioned)
the name:Balqis Barghash Hamoud Thamer Email:balqeesbarghash1960@gmail.com
8. Course objectives
The student should be able to know the basics of remote sensing, which include monitoring, studying and identifying terrestrial or near-terrestrial phenomena without contact with them, through studying and analyzing the rays or electromagnetic energy or emitted from those targets that have the properties of the target under study.
9. Teaching and learning strategies

1. Cognitive strategies. 2. Active learning strategies. 3. Cooperative learning strategies. 4. Discussion strategy.	**Strategy**

10. Course structure

Evaluation method	Learning method	Name of the unit or topic	Required learning outcomes	Watches	The week
Chapter Two					
Theoretical exams and discussion	Theoretical lectures	Allergy	Interpretation of images and sp data, features, shape size, style, shadows, shop ,composition,location,**The comm people**For the basics of interpretatio Aerial photos for Earth surface analysis dig processing of space data (images) And its radiological evaluation And remove the distortion from improve it and straighten it Engineering Air and space sensors, satellites. Air and space sensors, satellites Interpretation of images and sp data, features of shape, size, patte shadows, darkness, compositi location, basic factors in interpret aerial images for the purpose analyzing the Earth's surface	2 hours (theoretical)	the first
		Allergy.		2 hours (theoretical)	the second
		Satellite sensing applications		2 hours (theoretical)	the third
		Satellite sensing applications		2 hours (theoretical)	Fourth
		Radar Specifications		2 hours (theoretical)	Fifth
		Radar Specifications		2 hours (theoretical)	Sixth
		Satellite image processing		2 hours (theoretical)	Seventh
		Satellite image processing		2 hours (theoretical)	The eighth
		Satellite image processing		2 hours (theoretical)	Ninth
		The model		2 hours (theoretical)	tenth

		The model	Directing digital aerial photographs form a three-dimensional model a three-dimensional display of Earth's surface and extract information and measurements Earth's surface features through thr dimensional vision	2 hours (theoretical)	eleventh
		Satellites		12 hours (theoretical)	twelfth
		Satellites.		2 hours (theoretical)	thirteenth
		Mosaic		2 hours (theoretical)	fourteenth
		Mosaic		2 hours (theoretical)	fifteenth

11. Course Evaluation	
The distribution is as follows: 40 points for the endeavour (30 points for theory + 10 points for the year's work) 60 points for the final exam.	
12. Learning and teaching resources	
1. Swain, Pf Davis SM, (1978) "Rer sensing the quantities approach", New Yor	Required textbooks (methodology if any)
Murad Al-Sheikh, Makram Anwar, (1991), "Remote Sensing Science", Technical Institutes Authority, Ministry of Higher Education and Scientific Research, Iraq.	Main References (Sources)
-Aerial Survey, Labib Nassif, Louise Khalil, Khaled Hilal Sarhan, Technical Education Authority, Second Edition 1999	Recommended supporting books and references (scientific journals, reports, etc.)
	Electronic references, websites

13. Course name:
Quantity Survey/1
14. Course code:
15. Chapter/Year:

First semester

16. Date this description was prepared: 02/14/2024

10/16/2024

17. Available attendance forms:

Attendance to class

18. Number of study hours (total) / Number of units (total):

30 hours

19. Name of the course administrator (if more than one name is mentioned)

the name: Wadi Mohammed Wadi
Email:wadimw@stu.edu.iq

20. Course objectives

• ..... • ..... •	1- **The student should be able to identify the types of construction materials, machines, equipment, and implementation methods for engineering projects (buildings).**

21. Teaching and learning strategies

Using direct explanation method with visual aids	**Strategy**

22. Course structure

Evaluation method	Learning method	Name of the unit or topic	Required learning outcomes	Watches	The week
Written exams and discussion	Theoretical lectures	Introducing the student to the typ of construction materials		2 hours	the first
		Calculate the quantities of ceme sand and gravel		2 hours	the second
		Types of bricks		2 hours	the third

		Calculate the volume of mortar		2 hours	Fourth
		Types of tiles		2 hours	Fifth
		Moisture-proofing materials plast		2 hours	Sixth
		Construction machinery		2 hours	Seventh
		The purpose of guessing		2 hours	The eighth
		Earthworks		2 hours	Ninth
		Structural paragraphs below level of the barrier Humidity		2 hours	tenth
		Construction paragraphs		2 hours	eleventh
		Concrete		2 hours	twelfth
		Concrete		2 hours	thirteenth
		Calculate concrete quantities		2 hours	fourteenth fifteenth

23. Course Evaluation

Distribution as follows: 50 points for the effort (50 theoretical + 10 annual work). 50 points for the final exam.

24. Learning and teaching resources

	1- Quantity Survey / Muwaffaq Al-Saour / Minis of Education 2- Quantity Survey / Sami Miri Kazim, Abdul Ka Al-Shamaa / Ministry of Education 3- Construction Materials / Jalal Bashir Sarsa Ministry of Education

	4- Estimation and specifications of construct works / Ghanem Abdul Rahman

13.Course name:					
Mathematics/1					
14. Course code:					
15. Semester/Year: Annual					
quarterly/ First year					
16. Date this description was prepared:					
10/15/2024					
17. Available attendance forms:					
In-person only					
18. Number of study hours (total) / Number of units (total):					
60 study hours per semester / 2 units					
19. Name of the course administrator (if more than one name is mentioned)					
the name:M.M. Fatima Abdul Razzaq Mohammed Email:Fatima.abdulrazaq@stu.edu.iq					
20. Course objectives					
Developing the student's skill in employing the principles of mathematics in various engineering applications and developing their skills to benefit from them in other engineering lessons.					
21. Teaching and learning strategies					
5. Cognitive strategies. 6. Active learning strategies. 7. Cooperative learning strategies. 8. Discussion strategy.				**Strategy**	
22. Course structure					
Evaluation method	**Learning method**	**Name of the unit or topic**	**Required learning outcomes**	**Watches**	**The week**
Chapter One					

Written exams and discussion	Theoretical lectures	Review in solving equations	1- The student learns about the uses of mathematics in calculating area. 2- Developing intellectual, logical and analytical skills to benefit from them in various aspects of study.	2 hours (theoretical)	the first
		Matrices types, addition and subtraction of matrices		2 hours (theoretical)	the second
		Transpose matrix Inverse matrix Inverse matrix.		2 hours (theoretical)	the third
		Binary and ternary determinants		2 hours (theoretical)	Fourth
		Solving simultaneous equations using determinants.		2 hours (theoretical)	Fifth
		Equation of a straight line, two lines perpendicular, two lines parallel.		2 hours (theoretical)	Sixth
		Trigonometry Some important laws in trigonometric ratios.		2 hours (theoretical)	Seventh
		Solving a triangle Some important rules for solving a triangle.		2 hours (theoretical)	The eighth
		Circular sector, circular segment, finding area and diameter.		2 hours (theoretical)	Ninth
		Derivative, polynomial functions, implicit functions.		2 hours (theoretical)	tenth
		Derivative of trigonometric functions.		2 hours (theoretical)	eleventh
		Derivative applications, finding the equation of the tangent.		2 hours (theoretical)	twelfth
		Integration, integration of algebraic functions.		2 hours (theoretical)	thirteenth
		Integration of trigonometric functions.		2 hours (theoretical)	fourteenth
		Definite integration, applications of definite integration.		2 hours (theoretical)	fifteenth

23. Course Evaluation

Distribution as follows: 40 points for the effort (30 theoretical + 10 annual work). 60 points for the final exam.

24. Learning and teaching resources

	Required textbooks (methodology if any)

Thomas' Calculus – G., B., Thomas, M., D., Weir, J. Hass	Main References (Sources)
Reviewing many scientific journals issued by various Iraqi universities, in addition to visits to scientific libraries and the institute's library.	Recommended supporting books and references (scientific journals, reports, etc.)
	Electronic references, websites

1. Course name:	
Earth surface science	
2. Course code:	
3. Semester/Year: Annual	
quarterly	
4. Date this description was prepared:	
10/15/2024	
5. Available attendance forms:	
Just my opinion	
6. Number of study hours (total) / Number of units (total):	
1 units (1 unit per chapter)	
7. Name of the course administrator (if more than one name is mentioned)	
the name:	
8. Course objectives	
The student will be able to identify the geomorphological phenomena that he surveys and draws, and how to identify them on geological maps and from aerial photographs, as well as identify the types of sediments, minerals, atmospheres, and the movement of land masses and how to protect against them.	
9. Teaching and learning strategies	
1. Cognitive strategies. 2. Active learning strategies. 3. Cooperative learning strategies. 4. Discussion strategy.	**Strategy**
10. Course structure	

Evaluation method	Learning method	Name of the unit or topic	Required learning outcomes	Watches	The week
Chapter Two					
Theoretical exams and discussion	Theoretical lectures	Introduction to the subject of geoscience and its relationship to other sciences and surveying.	1- Its aim is to study the layers of the Earth and its components, as well as the layers of the atmosphere.	1 hour (theoretical)	the first
		Main features of the Earth's crust, interior and atmosphere.		1 hour (theoretical)	the second
		Minerals, their physical properties with examples		1 hour (theoretical)	the third
		Rocks, definition, types, cycle in nature		1 hour (theoretical)	Fourth
		igneous rocks		1 hour (theoretical)	Fifth
		Sedimentary rocks		1 hour (theoretical)	Sixth
		mechanical weathering		1 hour (theoretical)	Seventh
		Metamorphic rocks		1 hour (theoretical)	The eighth
		chemical weathering		1 hour (theoretical)	Ninth
		Soil section and factors controlling it		1 hour (theoretical)	tenth
		Soil types and soil triangle		1 hour (theoretical)	eleventh
		Erosion and its causes		1 hour (theoretical)	twelfth
		Rivers: their dynamic properties and types.		1 hour (theoretical)	thirteenth
		Geomorphological phenomena of river erosion		1 hour (theoretical)	fourteenth
		Topographical phenomena of river sedimentation		1 hour (theoretical)	fifteenth
11. Course Evaluation					
Distribution as follows: 40 points for the effort (30 theoretical + 10 annual work). 60 points for the final exam.					

12. Learning and teaching resources	
	Required textbooks (methodology if any)
- Principles of Engineering Geology and its Applications, authored by Majeed Aboud Jassim Al-Taie, University of Basra 2001 - Engineering Geology, Muqdad Hussein Ali, Basem Rushdi Hijab, Sinan Hashim Al-Jassar, University of Baghdad 1990 - Fundamentals of Geology for Engineers, Kanana Mohammed Thabet, Mohammed Omar Al-Ashou, University of Mosul 1993	Main References (Sources)
Reviewing many scientific journals issued by various Iraqi universities, in addition to visits to scientific libraries and the institute's library.	Recommended supporting books and references (scientific journals, reports, etc.)
	Electronic references, websites

13.Course name:
Computer Basics/1
14. Course code:
15. Semester/Year: Annual
quarterly
16. Date this description was prepared:
10/15/2024
17. Available attendance forms:
Just my work
18. Number of study hours (total) / Number of units (total):
2 units (2 units per semester)
19. Name of the course administrator (if more than one name is mentioned)
the name:M.M. Fatima Abdul Razzaq Mohammed Email:Fatima.abdulrazaq@stu.edu.iq

20. Course objectives					
The student will be able to identify the components of the computer, operating systems, and electronic hacking mechanisms.					
21. Teaching and learning strategies					
5. Cognitive strategies. 6. Active learning strategies. 7. Cooperative learning strategies. 8. Discussion strategy.				**Strategy**	
22. Course structure					
Evaluation method	**Learning method**	**Name of the unit or topic**	**Required learning outcomes**	**Watches**	**The week**
Chapter Two					
Theoretical and practical exams and discussion	Practical lectures	Computer basics and computer concept...	1-Providing the student with the ability to deal with basic office applications and learn about operating systems.	2 hours (practical)	the first
		Advantages of computer and its areas of use		2 hours (practical)	the second
		Computer components and hardware parts of the computer		2 hours (practical)	the third
		Computer Security Concept and Software Licensing		2 hours (practical)	Fourth
		Continuation of the previous		2 hours (practical)	Fifth
		Ethics of the electronic world		2 hours (practical)	Sixth
		Electronic hacking and the most important steps to protect against it		2 hours (practical)	Seventh
		Definition of operating system and its most important types		2 hours (practical)	The eighth
		Windows 7 operating system		2 hours (practical)	Ninth
		Desktop components and menustart		2 hours (practical)	tenth
		Folders, files and icons		2 hours (practical)	eleventh

		Perform operations on windows		2 hours (practical)	twelfth
		.Control Panelcontrol panel		2 hours (practical)	thirteenth
		Organizing files on the computer and installing and deleting programs		2 hours (practical)	fourteenth
		Common computer settings such as time, date, etc.		2 hours (practical)	fifteenth

23. Course Evaluation	
Distribution as follows: 50 points for the endeavour (40 practical + 10 annual work). 50 points for the final exam.	
24. Learning and teaching resources	
	Required textbooks (methodology if any)
-	Main References (Sources)
	Recommended supporting books and references (scientific journals, reports, etc.)
	Electronic references, websites

25. Course name:
English/1
26. Course code:
27. Chapter/Year:
quarterly
28. Date this description was prepared:
10/15/2024
29. Available attendance forms:
My presence

30. Number of study hours (total) / Number of units (total):					
2 hours / 2 units					
31. Name of the course administrator (if more than one name is mentioned)					
Name: Diaa Kazim Abdullah Email: dh.kadhim@gmail.com					
32. Course objectives					
• ..... • ..... •		**To teach students how to read, write, pronounce and converse among people.**			
33. Teaching and learning strategies					
Teaching students the basics of English language, reading, writing a conversation among people			**Strategy**		
34. Course structure					
Evaluation method	**Learning method**	**Name of the unit or topic**	**Required learning outcomes**	**Watches**	**The week**
Written exams and interactive discussion	Theoretical lectures	. Verbs of being	The student learns about verbs of being, passive and active pronouns, possessive pronouns, and learns about time, negation and affirmation.	2 hours theoretic	the first
		Demonstrative pronouns.			the secor
		Subject pronouns		2 hours theoretic	the third

		Question form		2 hours theoretic	Fourth
		Negation and questic		2 hours theoretic	Fifth
		.Negation and questi		2 hours theoretic	Sixth
		.Negation and questi		2 hours theoretic	Seventh
		Passive voice		2 hours theoretic	The eigh
		Possessive pronouns		2 hours theoretic	Ninth
		Simple present		2 hours theoretic	tenth
		Indefinite and definit		2 hours theoretic	atheistic ten
		. the time		2 hours theoretic	the seco ten
		Simple present.		2 hours theoretic	the third ten
		Question and negatic		2 hours theoretic	Fourth ten
		15. Object pronouns			Fifth ten

35. Course Evaluation
Distribution as follows: 50 points for the endeavour (40 practical + 10 annual work). 50 points for the final exam.

36. Learning and teaching resources	
	New Headway Plus: Beginner - Students Book

1. Course name:
Human rights and democracy
2. Course code:
3. Semester/Year: Annual
quarterly/ First year
4. Date this description was prepared:
03/14/2024
5. Available attendance forms:
In-person only
6. Number of study hours (total) / Number of units (total):
30 hours in the first semester (2 theoretical hours over 15 weeks) / 2 units
7. Name of the course administrator (if more than one name is mentioned)
Name: Abbas Brisam Habib Email:abbas.b@gmail.com
8. Course objectives
Studying the principles of human rights, democracy and freedom is a necessity of the age because of its connection to human civil and political life, as it contributes greatly to promoting equality and development and preventing conflicts and human rights violations by promoting the language of dialogue, accepting other opinions and supporting democratic participation processes in order to establish societies in which all human rights of all people are appreciated and respected.
9. Teaching and learning strategies

1. Cognitive strategies. 2. Active learning strategies. 3. Cooperative learning strategies. 4. Discussion strategy.	**Strategy**

10. Course structure

Evaluation method	Learning method	Name of the unit or topic	Required learning outcomes	Watches	The week
Chapter One					

Weekly, monthly, daily, written and end-of-year exams.	Theoretical lectures	Historical development of human rights. Human rights in ancient civilizations (Mesopotamian civilization and other ancient civilizations).	Developing cognit understanding	2 hours (theoretical)	the first
		Human rights in divine laws with a focus on human rights in Islam.		2 hours (theoretical)	the second
		Human rights in the Middle Ages and modern times.		2 hours (theoretical)	the third
		Regional recognition of human rights at the European, American, African, Islamic and Arab levels.		2 hours (theoretical)	Fourth
		Non-governmental organizations and their role in human rights (International Committee of the Red Cross, Amnesty International, Human Rights Watch, Arab Organization for Human Rights).		2 hours (theoretical)	Fifth
		Human rights in international and regional covenants and national legislation. Human rights in international conventions (the Universal Declaration of Human Rights, the two international covenants on human rights).		2 hours (theoretical)	Sixth

		Human rights in regional charters (European Convention on Human Rights, American Convention on Human Rights, African Charter on Human Rights, Arab Charter on Human Rights).		2 hours (theoretical)	Seventh
		Human rights in national legislation (the Iraqi Constitution).		2 hours (theoretical)	The eighth
		Forms and generations of human rights: Forms of human rights (individual rights, collective rights). Generations of human rights (first generation: civil and political rights), (second generation: economic and social rights), third generation: modern human rights), water and environmental awareness		2 hours (theoretical)	Ninth
		Human rights guarantees and protection at the national level: Constitutional, judicial and political guarantees.		2 hours (theoretical)	tenth
		Human rights guarantees and protection at the regional and international levels. (The role of the United Nations, the role of regional organizations), the crime of genocide.		2 hours (theoretical)	eleventh

		Classification of public freedoms: (Basic and individual freedoms: freedom of security and feeling secure, freedom of coming and going, personal freedom).		2 hours (theoretical)	twelfth
		Intellectual and cultural freedoms: (freedom of opinion, freedom of belief, freedom of education).		2 hours (theoretical)	thirteenth
		Freedom of the press, freedom of assembly, freedom of association.		2 hours (theoretical)	fourteenth
		Economic and social freedoms (freedom of work, freedom of ownership, freedom of trade and industry).		2 hours (theoretical)	fifteenth

11. Course Evaluation

Distribution as follows: 40 points for the endeavour (30 theoretical exams + 10 annual work). 60 points for the final exam (theoretical).

12. Learning and teaching resources

	Required textbooks (methodology if any)
1- Human Rights (Development - Content - Protection) Prof. Dr. Riyad Aziz Hadi 2- Human rights, democracy and public freedoms. Dr. Maher Sabry Kazem	Main References (Sources)
Reviewing many scientific journals issued by various Iraqi universities, in addition to visits to scientific libraries and the institute's library.	Recommended supporting books and references (scientific journals, reports, etc.)
	Electronic references, websites

Course Description Second Semester/First Year

1. Course name:	
Surveying / 2	
2. Course code:	
3. Chapter/Year:	
Second semester / first year	
4. Date this description was prepared:	
10/10/2024	
5. Available attendance forms:	
Dealing with all available possibilities for the purpose of delivering and educating students.	
6. Number of study hours (total) / Number of units (total):	
6 hours ((4 units	
7. Name of the course administrator (if more than one name is mentioned)	
Name: Louay Muzahim Abdul Karim Email:luay.abdulkareem@stu.edu.iq	
8. Course objectives	
The aim of studying surveying is for the student to understand the basics of mathematical calculations to find the actual measurements of distances and angles, as well as to calculate the coordinates of the locations of ground points in order to sign them on paper at a specific drawing scale.	
9. Teaching and learning strategies	
The teaching and learning strategy is based on teaching the student all t skills to carry out all surveying work with the help of surveying equipm and related Indian software.	**Strategy**

10. Course structure

Evaluation method	Learning method	Name of the unit or topic	Required learning outcomes	Watches	The week
Live through questions, participat	Theoretical aspect and	Theodolites	Learn about theodolites and	6	the first

ion and reports	familiarity with devices		how to use them.		
Live through questions, participation and reports	Theoretical and practical side	vertical angles	How to measure vertical angles	6	the second
Live through questions, participation and reports	Theoretical and practical side	North	Learn and identify the types of north and how to measure it.	6	the third
Live through questions, participation and reports	Theoretical and practical side	Horizontal angles	Teaching the student how to observe horizontal angles	6	Fourth
Live through questions, participation and reports	Theoretical and practical side	Polygons	Teaching the student about the types of polygons and how to deal with them	6	Fifth
Live through questions, participation and reports	Theoretical and practical side	Corrections	Teaching the student to make corrections to different types of angles.	6	Sixth
Live through questions, participation and reports	Theoretical and practical side	Vehicles	Teaching the student to calculate horizontal and vertical components.	6	Seventh

Live through questions, participation and reports	Theoretical and practical side	Forward and revers accounts	Teaching the student forward and reverse calculations of point locations	6	The eighth
Live through questions, participation and reports	Theoretical and practical side	Coordinates	Teaching the student to calculate the coordinates of the locations of points	6	Ninth
Live through questions, participation and reports	Theoretical and practical side	closed polygon	Teaching the student how to make a closed polygon and how to select its points	6	tenth
Live through questions, participation and reports	Theoretical and practical side	polygon angles	Teaching the student how to correct the angles of a polygon in different ways	6	eleventh
Live through questions, participation and reports	Theoretical and practical side	polygon angles	Continuing to teach the student how to correct the angles of a polygon in different ways	6	twelfth
Live through questions, participation and reports	Theoretical and practical side	Coordinates and Vehicles	Teaching the student about horizontal and vertical component	6	thirteenth

			calculations and coordinate calculations		
Live through questions, participation and reports	Theoretical and practical side	Coordinates and Vehicles	Teaching the student about horizontal and vertical component calculations and coordinate calculations	6	fourteenth
Live through questions, participation and reports	Theoretical and practical side	Corrections	Completing the student's education on how to correct using the compass and crossing method	6	fifteenth

11. Course Evaluation

Final Exam	striving	Second semester exam	Chapter One Quest
50 degrees	50 degrees	10 reports and research	10 degrees reports and research
		20 monthly exams	20 marks monthly exam
		20 practical degrees	20 practical degrees

12. Learning and teaching resources

1 - Raymond E. Davis Joe Wkelly. Elementary plan surveying.

2 – Singh, Narindr Surveying. Delhi 1982

3 - Ziad Abdul Jabbar Al-Bakr, Ibrahim Daoud Alwan, practical area.

4 - Razan Ibrahim 2011, Fundamentals of Surveying, Amman - Community Library.

5- Yousef Siam 2001, Faculty of Engineering, University of Jordan.

6 - Yassin Obaid Ahmed 1990 Engineering Surveying - Faculty of Engineering, Bahou University.

13. Course name:
Quantity Survey/2
14. Course code:
15. Chapter/Year:
First semester
16. Date this description was prepared: 02/14/2024
10/16/2024
17. Available attendance forms:
Attendance to class
18. Number of study hours (total) / Number of units (total):
30 hours
19. Name of the course administrator (if more than one name is mentioned)
the name: Wadi Mohammed Wadi Email:wadimw@stu.edu.iq
20. Course objectives

• ..... • ..... •	2- **The student should be able to identify the types of construction materials, machines, equipment, and implementation methods for engineering projects (buildings).**

21. Teaching and learning strategies	
Using direct explanation method with visual aids	**Strategy**

22. Course structure

Evaluation method	Learning method	Name of the unit or topic	Required learning outcomes	Watches	The week
	Theoretical lectures	Calculate the amount of finishing work		2 hours	the first

Written exams and discussion					
		Calculate the quantities of flooring works		2 hours	the second
		Apply the above paragraphs on the computer		2 hours	the third
		Types of foundations for buildings		2 hours	Fourth
		Types of foundations		2 hours	Fifth
		Types of roads		2 hours	Sixth
		Road axes		2 hours	Seventh
		Earthwork volumes		2 hours	The eighth
		Earthwork volumes		2 hours	Ninth
		Types of joints		2 hours	tenth
		Guess the channels		2 hours	eleventh
		Railways		2 hours	twelfth
		Types of airports		2 hours	thirteenth
		Traffic signs Show movies		2 hours	fourteenth fifteenth
23. Course Evaluation					
Distribution as follows: 50 points for the effort (50 theoretical + 10 annual work). 50 points for the final exam.					
24. Learning and teaching resources					

	5- Quantity Survey / Muwaffaq Al-Saour / Minis of Education 6- Quantity Survey / Sami Miri Kazim, Abdul Ka Al-Shamaa / Ministry of Education 7- Construction Materials / Jalal Bashir Sarsa Ministry of Education 8- Estimation and specifications of construct works / Ghanem Abdul Rahman

25.Course name:	
remote sensing2/	
26. Course code:	
27. Semester/Year: Annual	
semester / first year	
28. Date this description was prepared:	
10/15/2024	
29. Available attendance forms:	
In presence	
30. Number of study hours (total) / Number of units (total):	
60 hours in languages (2 theoretical over 30 weeks / 4 units (2 units per semester)	
31. Name of the course administrator (if more than one name is mentioned)	
the name:Balqis Barghash Hamoud Thamer Email:balqeesbaraghash1990@gmail.com	
32. Course objectives	
The student should be able to know the basics of remote sensing, which include monitoring, studying and identifying terrestrial or near-terrestrial phenomena without contact with them, through studying and analyzing the rays or electromagnetic energy emitted from those targets that have the properties of the target under study.	
33. Teaching and learning strategies	
9. Cognitive strategies. 10.Active learning strategies. 11.Cooperative learning strategies. 12.Discussion strategy.	**Strategy**

34. Course structure					
Evaluation method	**Learning method**	**Name of the unit or topic**	**Required learning outcomes**	**Watches**	**The week**
Chapter Two					
Theoretical exams and discussion	Theoretical lectures	Allergy	Interpretation of images and spatial data, features of shape, size, pattern, shadows, darkness, composition, location,**The common people**For the basics of interpreting aerial photographs for the purpose of analyzing the Earth's surface, digital processing of space data (images) and their radiographic correction, removing distortion from them, improving them and correcting them geometrically.And its components as well as the layers of the atmosphere. Air and space sens satellites	2 hours (theoretical)	the first
		Applications Sensing Satellites		2 hours (theoretical)	the second
		Applications Sensing Satellites		2 hours (theoretical)	the third
		Applications Sensing Satellites		2 hours (theoretical)	Fourth
		Radar Specifications		2 hours (theoretical)	Fifth
		Radar descriptors		2 hours (theoretical)	Sixth
		Satellite image processing		2 hours (theoretical)	Seventh
		Satellite image processing		2 hours (theoretical)	The eighth
		Satellite image processing		2 hours (theoretical)	Ninth
		The model		2 hours (theoretical)	tenth
		The model		2 hours (theoretical)	eleventh
		Satellites		2 hours (theoretical)	twelfth
		Satellites		2 hours (theoretical)	thirteenth

		Mosaic	Industrial interpretat of satellite images data Features: shape, size, style, shadows, darkness, composition, location, etc. The basic factors interpreting images Atmospheric analysis the Earth's surface Directing digital ae photographs to form 3D model and rendering of the surfa Land and informat extraction measurements To see the features the Earth's surf through vision Stereoscopic	2 hours (theoretical)	fourteenth
		Mosaic		2 hours (theoretical)	fifteenth
35. Course Evaluation					
Distribution as follows: 40 points for the effort (30 theoretical + 10 annual work). 60 points for the final exam.					
36. Learning and teaching resources					
			Required textbooks (methodology if any)		

- 2- Al-Daghestani, Nabil Sobhi, (2003), "Remote Sensing Basics and Application", Al-Balqa University.Baghdad 1990 - Murad Al-Sheikh, Makram Anwar, (1991), "Remote Sensing Science", Technical Institutes Authority, Ministry of Higher Education and Scientific Research, Iraq. - **Aerial Survey, Labib Nassif, Louise Khalil, Khaled Hilal Sarhan, Technical Education Authority, Second Edition 1999** -	Main References (Sources)
Reviewing many scientific journals issued by various Iraqi universities, in addition to visits to scientific libraries and the institute's library.	Recommended supporting books and references (scientific journals, reports, etc.)
	Electronic references, websites

37.Course name:
Mathematics/2
38. Course code:
39. Semester/Year: Annual
quarterly/ First year
40. Date this description was prepared:
10/15/2024
41. Available attendance forms:
In-person only
42. Number of study hours (total) / Number of units (total):
60 study hours per semester / 2 units
43. Name of the course administrator (if more than one name is mentioned)

the name:M.M. Fatima Abdul Razzaq Mohammed
Email:Fatima.abdulrazaq@stu.edu.iq

44. Course objectives

Developing the student's skill in employing the principles of mathematics in various engineering applications and developing their skills to benefit from them in other engineering lessons.

45. Teaching and learning strategies

-Cognitive strategies. -Active learning strategies. -Cooperative learning strategies. -Discussion strategy.	**Strategy**

46. Course structure

Evaluation method	**Learning method**	**Name of the unit or topic**	**Required learning outcomes**	**Watches**	**The week**
Chapter Two					
Written exams and discussion	Theoretical lectures	Area under a curve, area between two curves.	1- The student learns about the uses of mathematics in calculating area. 2- Developing intellectual, logical and analytical skills to benefit from them in various aspects of study.	2 hours (theoretical)	the first
		Numerical methods in integration, finding the area using the trapezoidal rule		2 hours (theoretical)	the second
		Finding Area Using Simpson's Rule		2 hours (theoretical)	the third
		Statistical operations (range, mean, standard deviation)		2 hours (theoretical)	Fourth
		Charts		2 hours (theoretical)	Fifth
		Various exercises		2 hours (theoretical)	Sixth
		spherical triangle,		2 hours (theoretical)	Seventh
		Solve the right spherical triangle		2 hours (theoretical)	The eighth
		Solve the equilateral and isosceles spherical triangle.		2 hours (theoretical)	Ninth
		oblique spherical triangle		2 hours (theoretical)	tenth

		Area of a spherical triangle		2 hours (theoretical)	eleventh
		Various exercises in solving spherical triangle problems		2 hours (theoretical)	twelfth
		MATLAB program, definition, applications		2 hours (theoretical)	thirteenth
		Solving matrices, determinants, derivatives		2 hours (theoretical)	fourteenth
		Graphs using matlab		2 hours (theoretical)	fifteenth

47. Course Evaluation	
Distribution as follows: 40 points for the effort (30 theoretical + 10 annual work). 60 points for the final exam.	
48. Learning and teaching resources	
	Required textbooks (methodology if any)
Thomas' Calculus – G., B., Thomas, M., D., Weir, J. Hass	Main References (Sources)
Reviewing many scientific journals issued by various Iraqi universities, in addition to visits to scientific libraries and the institute's library.	Recommended supporting books and references (scientific journals, reports, etc.)
	Electronic references, websites

1. Course name:
Computer engineering drawing
2. Course code:
3. Semester/Year: Semester
quarterly
4. Date this description was prepared:2024/15/10
10/15/2024
5. Available attendance forms:
In presence
6. Number of study hours (total) / Number of units (total): 2hours

2hours	
7. Name of the course administrator (if more than one name is mentioned)	
8. Course objectives	
	The student will be able to perform engineering drawing work and use one of the engineering drawing programs on the computer, which is AutoCAD.
9. Teaching and learning strategies	
1- Learning strategy using the calculator 2- Strategy for teaching students to draw in AutoCAD engineeri programs.	**Strategy**

10. Course structure

Evaluation method	Learning method	Name of the unit or topic	Required learning outcomes	Watches	The week
Written exams and discussion	Theoretical lectures	Getting to know the (AutoCAD) program and how to deal with the program interface in the modern and classic form / showing and hiding the ribbons as needed / tool menus / dealing with (Ribbon) / creating a special (Ribbon) according to the most commonly used commands.		2hours	the first
		Setting up the drawing board using units and borders ((Limits)(units and work (Ribbon) Coordinate calculation (Cartesian, Polar, Relat Exercises Applied		2hours	the seco
		Drawing commands (Line,Circle,Arc,polyline,Rectangle,polygon, (Multilinear application exercises		2hours 2hours	the third Fourth

		Modification commands (Erase,Copy,Offset,Mirror, Array,Scale,Move,Trim, (Brak,Fillet) Practical exercises		2hours 2hours	Fifth Sixth
		Status bar commands(Status bar) and how to use it in graphics. Dealing with ((Zoom) commands		2 hours	Seventh
		Dimensions, Dimension style. How to change lines like center		2hours	The eigh
		Drawing a tangent to a circle from a point outside the circumference and a point above it, drawing a triangle tangent to a circle, a circle passing through the vertices of the triangle. Polygons inside and outside the circle.		2 hours	Ninth
		Using different drawing scales for several drawings and how the program deals with scales. Drawing oval and spiral shapes. Practical exercises.		2 hours	tenth
		Draw arcs that touch the circles from the outside, inside and outside together and add dimensions to them.		2 hours	atheistic ten
		Decorations and methods of drawing them. Practical exercises.		2 hours	the seco ten

		Orthographic projection of simple bodies and bodies with inclined surfaces with cylindrical protrusions and cavities		2 hours	the third ten
		Orthographic projection of simple bodies and bodies with inclined surfaces with cylindrical protrusions and cavities		2 hours	Fourth ten
		Orthographic projection of simple bodies and bodies with inclined surfaces with cylindrical protrusions and cavities		2 hours	Fifth ten

11. Course Evaluation

Distribution as follows: 50 points for the endeavour (40 theoretical + 10 annual work). 50 points for the final exam.

12. Learning and teaching resources

	http://www.4shared.com/document/UZR9pxgM/Learning_PerPoint_2010_.html
	Elements of photogrammetry –poulR.wolf 2ndEdition
	Elements of photogrammetry –poulR.wolf 2ndEdition.

Course Description First Semester/Second Year

25. Course name:	
Advanced Surveying/1	
26. Course code:	
27. Chapter/Year:	
First Semester /2024-2025	
28. Date this description was prepared:	
10/13/2024	
29. Available attendance forms:	
presence in the classroom	
30. Number of study hours (total) / Number of units (total):	
6 hours ((4 units	
31. Name of the course administrator (if more than one name is mentioned)	
Dr. Marwan Adel Hassan Email:Marwan.adil@stu.edu.iq	
32. Course objectives	
Teaching the student the basics of surveying and its use for civil engineering purposes. **Qualifying the student to use various surveying devices for civil engineering work**	
33. Teaching and learning strategies	
1-Using the computer to display scientific material when explaining and clarifying 2- Follow the discussion method to bring the material closer to the students. 3- Conduct tests and evaluation after the lecture.	**Strategy**
34. Course structure	

Evaluation method	Learning method	Name of the unit or topic	Required learning outcomes	Watches	The week
Daily exam and reports	The lecture and practical application	Theodolite device works And its main parts And the function of each	Knowing how the dev works Theodolite and its main pa And the function of each	4 hours	the firs
Daily exam and reports	The lecture and practical application	Student observation horizontal angles	Knowing how to monito student For horizontal angles	4 hours	the second
Daily exam and reports	The lecture and practi application	reading and calculation Vertical angles and error Marginal and sources errors In measuring vertical ang	Knowing how to read calculate Vertical angles and error Marginal and sources errors In measuring vertical angl	4 hours	the thir
Daily exam and reports	The lecture and practical applicatio n	Types of true north And magnetic a calculation Rib directions from Observed angles in The field	Knowing the types true north And magnetic a calculation Rib directions from Observed angles in The field	4 hours	Fourth
Daily exam and reports	The lecture and practical applicatio n	Types of polygons Its degrees a classifications Types of angles in Circular polygons closed	Knowing the types polygons Its degrees a classifications Types of angles in Circular polygons closed	4 hours	Fifth

Daily exam and reports	The lecture and practical applicatio n	Making corrections the angles In all its types a calculations Correct directions fro During it	Know how to do Corrections for angles In all its types a calculations Correct directions fron During it	4 hours	Sixth
Daily exam and reports	The lecture and practical applicatio n	Vehicle Account Horizontal and vertic My way is compass a crossing	Know how to calculat Horizontal and verti vehicles My way is compass a crossing	4 hours	Seventl
Daily exam and reports	The lecture and practical applicatio n	Coordinate calculatio Using horizon vehicles And vertical and corr this Vehicles containing On the wrong lock a my way Compass and crossing	Knowing the coordina calculation Using horizon vehicles And vertical and corr this Vehicles containing On the wrong lock a my way Compass and crossing	4 hours	The eighth
Daily exam and reports	The lecture and practical applicatio n	Front accounts and backgrou accounts	Know how to calculat Front and back accoun	4 hours	Ninth
Daily exam and reports	The lecture and practical applicatio n	Select polygon points Closed link a monitored The corner to the ri and Deflection angle	Knowing how to sel points Closed link polygon a monitor The corner to the ri and Deflection angle	4 hours	tenth

Daily exam and reports	The lecture and practical applicatio n	Perform calculations closed polygon And calculate coordinates and Make corrections	Knowing how to calculations closed polygon And calculate coordinates and Make corrections	4 hours	atheisti ten
Daily exam and reports	The lecture and practical applicatio n	Definition of area Tachymetry and purposes Its uses and explanati of methods Possible distances and Levels of sides a points	Know the definition area Tachymetry and purposes Its uses and explanati of methods Possible distances and Levels of sides a points	4 hours	the second ten
Daily exam and reports	The lecture and practical applicatio n	Using the theodolite and ruler Usual way to find distances And the difference in heights in a way Shadows	Know how to use Theodolite and ruler Usual way to fi distances And the difference heights in a way Shadows	4 hours	the thir ten
Daily exam and reports	The lecture and practical applicatio n	Using the theodolite and a regular ruler to find distances and elevation differences using the stylus method	Know how to use Theodolite and ruler Usual way to fi distances And the difference heights in a way Stadia	4 hours	Fourth ten
Daily exam and reports	The lecture and practical applicatio n	Theoretical foundatic in Use of devices Electronic and its types and accuracy And its uses	Knowing the theoreti foundations in Use of devices Electronic and its typ and accuracy And its uses	4 hours	Fifth ten

35. Course Evaluation			
Exam	striving	Second semester exam	Chapter One Quest
grees	50 degrees	10 reports and research	10 degrees reports and research
		20 monthly exams	20 marks monthly exam
		20 practical degrees	20 practical degrees

36. Learning and teaching resources	
nothing	Required Textbooks
1- Abdul Karim Toma, the book topographic surveying and Level, University of Baghdad, 1977 2- Dr. Fawzi Sadiq Al-Khalisi, Plane A Book, Al-Mustansiriya University, 1980	Main References (Sources)
Various sources from the Internet	Electronic references, websites

37. Course name:
Engineering survey
38. Course code:
39. Chapter/Year:
quarterly
40. Date this description was prepared
10/13/2024
41. Available attendance formsIn-person only
In-person only
42. Number of study hours (total) / Number of units (total):
4 hours per week
43. Name of the course administrator (if more than one name is mentioned)

Name: Dr. Aqeel Mohammed Hammood
Email:aqeel.almosawi@stu.edu.iq

44. Course objectives

• ..... • ..... •	1_Teaching and training students how to calculate and measure areas, find the volumes of soil quantities, perform calculations for horizontal and vertical curves, project them onto the ground, and project organized structures. 2_ Carrying out the necessary calculations to find the missing lengths and directions of the boundaries of the plots of land and the coordinates of their corners and calculating their areas..

45. Teaching and learning strategies

1_Learning strategy: Finding lengths and directions **_2 Learning strategy for land division and area calculation** **_3 Cooperative learning strategies**	**Strategy**

46. Course structure

Evaluation method	Learning method	Name of the unit or topic	Required learning outcomes	Watches	The week
Daily written tests and discussion	Article explanation Theory and practice practically	**Introduction to engineering surveying and the drawing scale used for each case, with an explanation of the different methods of**	**The student learns on Areas of regular shapes, and division into regular geometric shapes such as triangles, squares, rectangles, trapezoids, circles and their parts**	4 hours	the first

		calculating areas in the field.			
Daily written tests and discussion	Article explanation Theory and practice practically	**Place the columns at equal intervals (trapezoidal method).trapezoidal and Simpson's method), and**	**Developing the student's skill how Establishing columns at unequal intervals on the survey line of a plot of land and calculating its areas using all the methods shown.**	4 hours	the second
Daily written tests and discussion	Article explanation Theory and practice practically	**Using the coordinate method in calculating areas, the method of multiplying the longitude of the migrations(DMD)**	**Teaching the student to calculate the areas of shapes**	4 hours	the third
Daily written tests and discussion	Article explanation Theory and practice practically	**Different methods for calculating areas from a map include: dividing it into regular geometric shapes such as triangles or squares, using graph papers, using slides,**	**Teaching the student toArithmetic and reconstruction methods for calculating the areas of cross-sections of different shapes and different slopes of the ground surfaceD**	4 hours	Fourth

		using an electronic planometer to calculate areas (when the fixing point is inside or outside the shape).			
Daily written tests and discussion	Article explanation Theory and practice practically	**Calculating the volumes of soil quantities using the law of the average of the two bases, the method of the missing wedge (or prism), and the approximate method from the longitudinal section, and calculating the volume of the quarry and reservoir for dams using contour lines, and performing calculations and drawing the soil transport curve.**	**Help the student to know how to useUse the map to calculate areas and volumes in different ways.**	4 hours	Fifth

Daily written tests and discussion	Article explanation Theory and practice practically	**Identifying road surveying: This includes the ground and aerial surveying methods used to determine the path of the road's center line.**	**Learn onCalculating the soil quantities for a road section containing convex and concave vertical curves and a constant slope. A scientific trip to some government departments.**	4 hours	Sixth
Daily written tests and discussion	Article explanation Theory and practice practically	**Identify the types of vertical curves**	**Knowing the types of convex and concave curves and the equation for the parabola to calculate the level (analytical method)**	4 hours	Seventh
Daily written tests and discussion	Article explanation Theory and practice practically	**Horizontal curve**	**Know the elements of the simple circular horizontal curve, symbols, terms and laws**	4 hours	The eightl
Daily written tests and discussion	Article explanation Theory and practice practically	**Compound and inverse circular horizontal curves and their types**	**Helping the student calculate its elements and use them in expressways and intersections.**	4 hours	Ninth
Daily written tests	Article explanation Theory and practice practically	**Different methods of projecting a simple circular curve**	**The student learns the method of tangent angles (or deviation).**	4 hours	tenth

and discussion					
Daily written tests and discussion	Article explanation Theory and practice practically	**How to use columns to project curves**	**Teaching them to drop in different ways**	4 hours	atheistic ten
Daily written tests and discussion	Article explanation Theory and practice practically	**Transitional or spiral curves**	**Teach the student to use it and its calculations.**	4 hours	the second ten
Daily written tests and discussion	Article explanation Theory and practice practically	**Small project on the roads**	**How to know how to perform the necessary calculations for vertical and horizontal curves**	4 hours	the third ten
Daily written tests and discussion	Article explanation Theory and practice practically	**Drawing of soil transport curve and showing the width of excavation and backfilling**	**Preparing the student to calculate the areas of cross sections**	4 hours	Fourth ten
Daily written tests and discussion	Article explanation Theory and practice practically	**And hold discussions on the final results of the division.**	**Teaching the student the surveying work for the construction of floors and buildings**	4 hours	Fifth ten

47. Course Evaluation

Distribution as follows: 50 points for the endeavour (40 theoretical + 10 annual work). 50 points for the final exam.

48. Learning and teaching resources

Youssef Siam2001, Surveying - Faculty of Engineeri University of Jordan	**1-Raymond E. Davis Joe Wkelly. Elementary plan surveying** **2- Singh, Narindr Surveying_ Tata MC Graw – Hill publishing company**

Yassin Obaid Ahmed1990 Engineering Surveyin Faculty of Engineering, Al-Bahou University	**Ziad Abdul Jabbar Al-Bakr, Ibrahim Dac Alwan Practical Area**
	Razan Ibrahim2011, Fundamentals of Surveying, Amman - Community Library

1. Course name:	
Mapping technology/ 1	
2. Course code:	
3. Chapter/Year:	
Quarterly the first	
4. Date this description was prepared	
10/14/2024	
5. Available attendance forms:	
In presence	
6. Number of study hours (total) / Number of units (total):	
4/4	
7. Name of the course administrator (if more than one name is mentioned)	
Name: Nimat Hamid Jassim Email: niimat.jasim@stu.edu.iq	
8. Course objectives	
• ..... • ..... •	1- The student can learn about the principles of cartography and its integration with other specialization courses such as surveying and aerial surveying in preparing maps. 2- Raising the student's efficiency in drawing, designing, preparing and producing maps.
9. Teaching and learning strategies	

1- Theoretical lectures 2- Scientific discussions 3- Working in groups 4- Practical lectures in the ceremonies 5- Scientific seminars and presentation of the latest scientific developme within the specialization. 6- Scientific trips to work sites 7- Graduation projects for final year students	**Strategy**

10. Course structure

Evaluation method	Learning method	Name of the unit or topic	Required learning outcomes	Watches	The week
Short exam **Oral questions** **Homework** **Short exam** **Short exam**	Theoretical explanation Providing types Maps Theoretical	Principles of cartography, its nature and its relationship to land surveying		4 hours	the first
		Types of maps and their characteristics		4 hours	the second
		Methods of reducing and enlarging maps, geographic and quadratic coordinates.		4 hours	the third

	explanation Data show method	Completed last week Map projections definition And its classification		4 hours	Fourth
		Cylindrical Projections		4 hours	Fifth
		Muscat Mercator		4 hours	Sixth
		Conic Projections		4 hours	Seventh
		Muscat Lambert		4 hours	The eighth
		Conic Projections		4 hours	Ninth
		Muscat Bonn		4 hours	tenth
		Networking and indexing Maps		4 hours	eleventh
		The role and importance of colors Topographic symbols		4 hours	twelfth
		Maps pronunciation		4 hours	thirteenth
		Topography		4 hours	fourteenth
		Map design		4 hours	fifteenth
11. Course Evaluation					
Distribution as follows: 50 points for the endeavour (40 theoretical + 10 annual work). 50 points for the final exam.					

12. Learning and teaching resources	
	1- Dr. Hashem Yahya Al-Masraf, Principles Cartography, First Edition 2- Dr. Hashem Yahya Al-Masraf, practical exerci in cartography 3- Dr. Khader Al-Abbadi, Cartoon Graffiti, M Projections

49. Course name:	
Geographic Information SystemsGIS	
50. Course code:	
51. Chapter/Year:	
quarterly	
52. Date this description was prepared:	
10/13/2024	
53. Available attendance forms:	
In-person only	
54. Number of study hours (total) / Number of units (total):	
3 hours per week / 3 units	
55. Name of the course administrator (if more than one name is mentioned)	
Name: Hadeel Abbas Abdul Zahra Email:	
56. Course objectives	
• ..... • ..... •	The student should be able to employ the principles of geographic information systems.(GIS) By using spatial, descriptive, network and directed data for the purpose of preparing maps of all types (thematic, topographic and cadastral) and producing them in their final form as digital or paper maps with reports. And training students on how to use the DGPS system and its applications according to the requirements of the labor market.

57. Teaching and learning strategies	
Education StrategyTo prepare digital maps to collect, monitor, store, process, update and analyze data to produce results, display all information and extract thematic maps using the system (GIS).	**Strategy**

58. Course structure

Evaluation method	Learning method	Name of the unit or topic	Required learning outcomes	Watches	The week
Exams and discussion	Article explanat Theory practice practically	Spatial and descriptive data Network and vector data	The student learns how to insert images and create data.	3 hours	the firs
Daily exams and discussions	Explanation the scienti material from And its practi application o Calculator	Geographical reference and geometric correction of the topographic map	The student learns how to correct an image in all ways.	3 hours	the second
Daily exams and discussions	Article explanat Theory practice practically	Geometric correction of the image Space	Preparing the student for the geographic return process	3 hours	the thir
Daily exams and discussions	Article explanat Theory practice practically	How to set up a new project using the programArc Catalog	The student learns how to project and prepare a project.	3 hours	Fourth
Daily exams and discussions	Article explanat Theory practice practically	Drawing tools applicationtrace tool, End point Arc segment, Point, Intersection tool	The student learns to draw maps and apply tools.	3 hours	Fifth

Daily exams	Article explanat Theory practice practically	Apply additional drawing toolsAdvanced Editing Tools	The student learns the commands for modifying graphics.	3 hours	Sixth
Daily exams and discussions	Article explanat Theory practice practically	Layers Properties window, including Layers application (Labeling) According to the data of the distribution tables fields, transparency	Helping the student to know the layers and apply them	3 hours	Sevent
Daily exams and discussions	Article explanat Theory practice practically	Intersection tool, Midpoint tool, Split tool	Learn the student editing tools	3 hours	The eighth
Daily exams and discussions	Article explanat Theory practice practically	Apply additional drawing toolsAdvanced Editing Tools (such as Copy Feature, Extent Tool, Trim Tool	Learn the student editing tools	3 hours	Ninth
Daily exams and discussions	Article explanat Theory practice practically	Methods of enlarging and reducing landmarks and methods of selecting drawn landmarkszoom to select) select feature, Pan to select Features	The student learns the teacher's selection commands.	3 hours	tenth
Daily exams and discussions	Article explanat Theory practice practically	Layers Properties window, including Layers application (Labeling) According to the data of the distribution tables fields, transparency	The student learns the teacher's selection commands.	3 hours	atheisti ten
Daily exams and	Article explanat Theory practice practically	Preparing descriptive tables for the features of each drawn layer.	The student learns to prepare a descriptive table and enter data.	3 hours	the second ten

discussions		(How to add fields to tables and delete fields) and methods of entering data into tables.			
Daily exams and discussions	Article explanat Theory practice practically	Preparing thematic maps (contour and field data)	Learn to prepare maps	3 hours	the thir ten
Daily exams and discussions	Article explanat Theory practice practically	Final preparation of all map elements	Learn to prepare the map	3 hours	Fourth ten
Daily exams and discussions	Article explanat Theory practice practically	**No**yout, Title, Border, Grid, Scale, Legend, Index, Map source.	Learn to prepare the map	3 hours	fifteent

59. Course Evaluation

Distribution as follows: 50 points for the endeavour (40 theoretical + 10 annual work). 50 points for the final exam.

60. Learning and teaching resources

5. **Geographic Information SystemsGIS The Complete Scientific Guide to ARCVIEW System / Translated and prepared by Dr. Eng. Haitham Youssef Zarqata**	**1. GIS Step by Step** **Authors: Bassam Ahmed Abdel Hadi, Zaid Farhoud Makki, Maysaa Riad Al-Rujabi, Ziad Younis Taha Zayed. 2018**
6. **Lectures by Dr. Muhammad Mahna Al-Sahli on Introduction to Geographic Information Systems / Kuwait University / College of Social Sciences**	**2. Geographic Information Systems(GIS), General Administration for Curriculum Design and Development, Kingdom of Saudi Arabia 2010**

7. Overview of Geographic Information Systems(/ Dr. Mohammed Yaqoub Mohammed Saee United Arab Emirates University	**3. Foundations of Geodetic Surveying and GPS Juma Muhammad Dawood 1433/2012**
	4.**Global Positioning System Basics / Ministry of Higher Education and Scientific Research / University of MosulRemote Sensing Center / Prepared by Sabah Hussein Ali**

49.Course name:					
Computer Basics/2					
50. Course code:					
51. Semester/Year: Annual					
quarterly					
52. Date this description was prepared:					
10/15/2024					
53. Available attendance forms:					
In person only					
54. Number of study hours (total) / Number of units (total):					
2 units (2 units per semester)					
55. Name of the course administrator (if more than one name is mentioned)					
the name: Fatima Abdul Razzaq Mohammed Email:Fatima.abdulrazaq@stu.edu.iq					
56. Course objectives					
The student will be able to identify the components of the computer and the Office package in general and Microsoft Word and Excel in particular.					
57. Teaching and learning strategies					
13.Cognitive strategies. 14.Active learning strategies. 15.Cooperative learning strategies. 16.Discussion strategy.				**Strategy**	
58. Course structure					
Evaluation method	**Learning method**	**Name of the unit or topic**	**Required learning outcomes**	**Watches**	**The week**
Chapter Two					

Theoretical and practical exams and discussion	Practical lectures	. Run Microsoft Word 2010	1-To enable the student to deal with basic office applications, create files, and use Office package programs.	2 hours (practical)	the first
		Microsoft Word 2010 interface		2 hours (practical)	the second
		File tab Home tab		2 hours (practical)	the third
		Page Layout Tab		2 hours (practical)	Fourth
		Insert objects in Microsoft Word 2010		2 hours (practical)	Fifth
		Insert tab		2 hours (practical)	Sixth
		Tables and inserts		2 hours (practical)	Seventh
		Same as last week		2 hours (practical)	The eighth
		Illustration sets 7		2 hours (practical)	Ninth
		Word page header and footer		2 hours (practical)	tenth
		Text and symbols collection and insertion		2 hours (practical)	eleventh
		Additional tasks for Microsoft Word		2 hours (practical)	twelfth
		. Open a new file and save it to your desktop.		2 hours (practical)	thirteenth
		additiontheme + master view set		2 hours (practical)	fourteenth
		Continuation of the previous		2 hours (practical)	fifteenth

59. Course Evaluation

Distribution as follows: 50 points for the endeavour (40 practical + 10 annual work). 50 points for the final exam.

60. Learning and teaching resources

	Required textbooks (methodology if any)
-	Main References (Sources)

	Recommended supporting books and references (scientific journals, reports, etc.)
	Electronic references, websites

61. Course name:	
English/2	
62. Course code:	
63. Chapter/Year:	
quarterly	
64. Date this description was prepared:	
10/15/2024	
65. Available attendance forms:	
In presence	
66. Number of study hours (total) / Number of units (total):	
2 hours / 2 units	
67. Name of the course administrator (if more than one name is mentioned)	
Name: Diaa Kazim Abdullah Email:dh.kadhim@gmail.com	
68. Course objectives	
• ..... • ..... •	**The student should be able to learn the English language in an advanced way and be able to communicate in a simple way.**
69. Teaching and learning strategies	
Ability to communicate with others in an advanced and simple way	**Strategy**
70. Course structure	

Evaluation method	Learning method	Name of the unit or topic	Required learning outcomes	Watches	The week
Written exams and interactive discussion	Theoretical lectures	short sentences	Forming short sentences	2 hours	the first
		Present tense	Parts of speech And the times	2 hours	the second
		past tense		2 hours	the third
		do the right thing Future tenses		2 hours	Fourth Fifth
		verb patterns		2 hours	Sixth
		Present perfect		2 hours	Seventh
		Policewomen		2 hours	The eigh
		Greetings		2 hours	Ninth
		Obsessions		2 hours	tenth
		indirect questions		2 hours	atheistic ten
		Interrogative		2 hours	the secon ten
		Transferred reports		2 hours	the third ten
		Question formats		2 hours	Fourth ten
		Question formats		2 hours	Fifth ten
71. Course Evaluation					

Distribution as follows: 40 points for the endeavour (30 practical + 10 annual work). 60 points for the final exam.
72. Learning and teaching resources

73. Course name:
Baath regime crimes
74. Course code:
75. Chapter/Year:
quarterly
76. Date this description was prepared:
12/10/2024
77. Available attendance forms:
In-person lectures
78. Number of study hours (total) / Number of units (total):
30 hours per semester, 2 hours per week
79. Name of the course administrator (if more than one name is mentioned)
Name: Dr. Abbas Brisam Habib Al-Aqabi Email:abbas.B@gmail.com
80. Course objectives

• ..... • ..... •	1. Embodying the vision, mission and goals of the Southern Technical University, and applying the best educational practices with a focus on ensuring and enhancing quality and performance. 2. Enabling students to learn about the crimes committed by the former Baath Party regime in Iraq, for which the regime's leaders and henchmen were tried by the Iraqi Supreme Criminal Court. 3. Transferring knowledge, language skills, academic research writing and scientific achievement through student- and teacher-focused activities.

81. Teaching and learning strategies

	Strategy
• Explaining and presenting scientific material through lectures. • Giving practical and theoretical examples of the concept of crime and how it was committed by the henchmen of the former regime. • Explaining the subject matter and engaging in dialogue with students to convey the subject matter to their minds through discussion and asking questions.	

82. Course structure

Evaluation method	**Learning method**	**Name of the unit or topic**	**Required learning outcomes**	**Watches**	**The week**

Daily, weekly and monthly exams **Oral and written** **And end of year exams**	Lectures theory	The concept of crimes and their types	1- Expanding students' understanding of the concept of crimes.	2 hours	the first
		Types of international crimes	-Informing students about the crimes of the Baath regime.		the second
		The crime of suppressing the popular uprising Psychological crimes	Developing students' abilities to contribute to spreading what the Baath regime committed		the third Fourth
		Mechanism of psychological pressure			Fifth
		Psychological effects of crimes			Sixth
		Violations of Iraqi laws Some decisions			Seventh

		Psychological abuse			
		Environmental crimes			The eighth
		Drying the marshes			Ninth
		Halabja city			tenth
		Mass grave crimes			atheistic ten
		Events spanning 1979-2003			the second ten
		Events of the two-day uprising			the third ten
		Genocide victims' graves.			Fourth ten
		The Shaaban Uprising			Fifth ten
83. Course Evaluation					
Distributed as follows: 30 points for the mid-term exam, 10 points for daily exams, 60 points for the final exam.					
84. Learning and teaching resources					

	1. The textbook / crimes of the Baath regime in Iraq 2. Political Prisoners Foundation Archive 3. Martyrs Foundation Archive

85. Course name:
Arabic language /2
86. Course code:
87. Chapter/Year:
quarterly
88. Date this description was prepared:
12/10/2024
89. Available attendance forms:
In-person lectures
90. Number of study hours (total) / Number of units (total):
30 hours per semester, 2 hours per week
91. Name of the course administrator (if more than one name is mentioned)
Name: Elham Amir Sahi Email:
92. Course objectives

• ..... • ..... •	**"The student should be able to express their opinion on a specific topic in a correct and clear language. The student should analyze the meanings of new vocabulary through its context in the text."**

93. Teaching and learning strategies

1- The teacher guides students to read the text and then asks specific questions. **2- Identifying the meanings of key new vocabulary.** **3- Conducting a dialogue between two characters.**	**Strategy**

94. Course structure

Evaluation method	Learning method	Name of the unit or topic	Required learning outcomes	Watches	The week
Daily, weekly and monthly exams **Oral and written**	Lectures theory	Introduction to Grammatical Mistakes - The Closed Taa, The Long Taa, and The Open Taa	1- Expanding students' understanding of the concept of crimes.	2 hours	the first
		Rules for writing the extended and			the second

And end of year exams		shortened alif – solar and lunar letters			
		Dad and Tha Writing the hamza			the third Fourth
		punctuation marks			Fifth
		Noun, verb, and the difference between them			Sixth
		verbs			Seventh
		number			The eighth
		Common language errors applications			Ninth
		Common language errors applications			tenth
		Noon and Tanween - Meanings of Prepositions			atheistic ten
		Formal aspects of the discourse			the second ten

		The language of discourse is condescending			the third ten
		The language of discourse is condescending			Fourth ten
		Examples of correspondence			Fifth ten

95. Course Evaluation
Distributed as follows: 30 points for the mid-term exam, 10 points for daily exams, 60 points for the final exam.

96. Learning and teaching resources	
	4. The textbook / crimes of the Baath regime in Iraq 5. Political Prisoners Foundation Archive 6. Martyrs Foundation Archive

Course Description Second Semester/Second Year

97. Course name:
Advanced Surveying/2
98. Course code:
99. Chapter/Year:
Second Semester/2024-2025
100. Date this description was prepared:
10/13/2024
101. Available attendance forms:
presence in the classroom
102. Number of study hours (total) / Number of units (total):
6 hours ((4 units
103. Name of the course administrator (if more than one name is mentioned)
Dr. Marwan Adel Hassan Email:Marwan.adil@stu.edu.iq
104. Course objectives
Teaching the student the basics of surveying and its use for civil engineering purposes. **Qualifying the student to use various surveying devices for civil engineering work**
105. Teaching and learning strategies

	Strategy
1-Using the computer to display scientific material when explaining and clarifying 2- Follow the discussion method to bring the material closer to the students. 3- Conduct tests and evaluation after the lecture.	

106. Course structure

Evaluation method	**Learning method**	**Name of the unit or topic**	**Required learning outcomes**	**Watches**	**The week**

Daily exam and reports	The lecture and practical application	Measuring horizon angles And vertical using Total station device	Knowing how measure angles Horizontal and verti using Total station device	4 hours	the firs
Daily exam and reports	The lecture and practical application	Height calculation remote point using Inverter and with inverter	Knowing how calculate height remote point using Inverter and with inverter	4 hours	the secon
Daily exam and reports	The lecture and practical application	Calculate the sl distances and vertical between t points In my polycon way Radial	Know how to calcula Oblique spaces and vertical between t points In my polycon and radial way	4 hours	the thi
Daily exam and reports	The lecture and practical application	Coordinate calculatic A set of points and Use it in shedding One point or a group grid dots	Know how to calcula Coordinates of a set points Use it in shedding One point or a group grid dots	4 hours	Fourth
Daily exam and reports	The lecture and practical application	Find a point along given straight line	Knowing how to fin point Located on a straig line known	4 hours	Fifth
Daily exam and reports	The lecture and practical application	Calculate areas and Sizes	Know how to calcula Areas and volumes	4 hours	Sixth
Daily exam	The lecture	Surveying calculatio	Know how to calcula Surveying	4 hours	Seven

and reports	and practical application				
Daily exam and reports	The lecture and practical application	Surveying calculatio	Know how to calcula Surveying	4 hours	The eighth
Daily exam and reports	The lecture and practical application	Dropping through line Creation and method Surveying	Knowing how to dr from During the constructi line and in a way Surveying	4 hours	Ninth
Daily exam and reports	The lecture and practical application	Perform intersecti calculations the first	Know how to do First intersecti accounts	4 hours	tenth
Daily exam and reports	The lecture and practical application	Perform intersecti calculations the second	Know how to do Second intersecti accounts	4 hours	atheist ten
Daily exam and reports	The lecture and practical application	Perform intersecti calculations the third	Know how to do Third intersecti accounts	4 hours	the second ten
Daily exam and reports	The lecture and practical application	Networks Control Horizontal, its typ and degrees Its accuracy a classification method Its uses and ranges	Networking knowled Horizontal, its typ and degrees Its accuracy a classification method Its uses and ranges	4 hours	the thi ten

Daily exam and reports	The lecture and practical application	Calculating the streng of the shape For different types Networks and condition achievement Angles and sides Stations	Knowing how calculate power Shape for differe types Networks and condition achievement Angles and sides Stations	4 hours	Fourth ten
Daily exam and reports	The lecture and practical application	Make the correct actions In differe triangulation networ and dot shapes Different central	Know how to work Corrections followed Different triangulati networks and dot shapes Different central	4 hours	Fifth ten

107. Course Evaluation

Exam	striving	Second semester exam	Chapter One Quest
50 degrees	50 degrees	10 reports and research	10 degrees reports and research
		20 monthly exams	20 marks monthly exam
		20 practical degrees	20 practical degrees

108. Learning and teaching resources

nothing	Required Textbooks
1- Abdul Karim Toma, the book topographic surveying and Level, University of Baghdad, 1977 2- Dr. Fawzi Sadiq Al-Khalisi, Plane A Book, Al-Mustansiriya University, 1980	Main References (Sources)
Various sources from the Internet	Electronic references, websites

109. Course name:

cadastral survey

110. Course code:

111. Chapter/Year:

quarterly

112. Date this description was prepared

10/13/2024

113. Available attendance formsIn-person only

In-person only

114. Number of study hours (total) / Number of units (total):

4 hours per week

115. Name of the course administrator (if more than one name is mentioned)

Name: Dr. Aqeel Mohammed Hammood
Email: aqeel.almosawi@stu.edu.iq

116. Course objectives

• ..... • ..... •	1_Teaching and training students how to calculate and measure areas, find volumes of soil quantities, perform calculations for horizontal and vertical curves, project them onto the ground, and project regular structures. 2_ Carrying out the necessary calculations to find the missing lengths and directions of the boundaries of the plots of land and the coordinates of their corners and calculating their areas..

117. Teaching and learning strategies

1_Learning strategy: Finding lengths and directions **_2 Learning strategy for land division and area calculation** **_3 Cooperative learning strategies**	**Strategy**

118. Course structure

Evaluation method	Learning method	Name of the unit or topic	Required learning outcomes	Watches	The week

Daily written tests and discussion	Article explanation Theory and practice practically	**Know how to use the first intersection (To find two unknown lengths) using the trigonometric methods and the laws of polygons**	**Help the student know how to find the unknowns in the question.**	4 hours	the first
Daily written tests and discussion	Article explanation Theory and practice practically	**Same vocabulary as the previous week. Solve different exercises using the first intersection (to find two unknown lengths).**	**The student learns to calculate intersections or unknown measurements in the process of ribbing and triangulation.**	4 hours	the second
Daily written tests and discussion	Article explanation Theory and practice practically	**Using the methods of analytical geometry and coordinate rotation**	**Help the student in how to solve using different methods to calculate coordinates**	4 hours	the third
Daily written tests and discussion	Article explanation Theory and practice practically	**Second intersection (to find the length of one side and the direction of another side)**	**Learn calculations using the triangle method**	4hours	Fourth
Daily written tests and discussion	Article explanation Theory and practice practically	**Using the laws of polygons, analytical geometry**	**Helping the student to know the applications in road intersections and land division**	4 hours	Fifth

Daily written tests and discussion	Article explanation Theory and practice practically	**Learn calculations using the triangle method**	**Developing the intellectual skill to find the directions of the two unknown sides.**	4 hours	Sixth
Daily written tests and discussion	Article explanation Theory and practice practically	**Learn calculations using the triangle method**	**Teaching the student to use other methods such as the analytical method.**	4 hours	Seventh
Daily written tests and discussion	Article explanation Theory and practice practically	**Lengths and directions of) in circular and concentric polygons**	**Teaching calculations in finding unknown measurements**	4 hours	The eighth
Daily written tests and discussion	Article explanation Theory and practice practically	**To find the location of a selected point by observation**	**Knowing the types of back or reverse intersection**	4 hours	Ninth
Daily written tests and discussion	Article explanation Theory and practice practically	**Land division**	**How to prepare a logical line table to find measurements**	4 hours	tenth
Daily written tests and discussion	Article explanation Theory and practice practically	**Polygon division**	**Help the student divide the polygon into two parts.**	4 hours	eleventh
Daily written tests and discussion	Article explanation Theory and practice practically	**Dividing a polygon into two equal parts**	**Preparing the student to learn how to divide lands of all types**	4 hours	twelfth
Daily written tests and discussion	Article explanation Theory and practice practically	**Small project to divide large**	**Teaching the student on the devices to complete the project**	4 hours	thirteenth

		lands using calculations			
Daily written tests and discussion	Article explanation Theory and practice practically	**Complete the project calculations and draw its horizontal plan.**	**Student assistance in learning about charts and calculations**	4 hours	fourteenth
Daily written tests and discussion	Article explanation Theory and practice practically	**And hold discussions on the final results of the division.**	**Helping the student in how to conduct discussions**	4 hours	Fifth ten

119. Course Evaluation	
Distribution as follows: 50 points for the endeavour (40 theoretical + 10 annual work). 50 points for the final exam.	
120. Learning and teaching resources	
Youssef Siam2001, Surveying - Faculty of Engineeri University of Jordan	**1-Raymond E. Davis Joe Wkelly. Elementary plan surveying 2- Singh, Narindr Surveying_ Tata MC Graw – Hill publishing company**
Yassin Obaid Ahmed1990 Engineering Surveying Faculty of Engineering, Al-Bahou University	**Ziad Abdul Jabbar Al-Bakr, Ibrahim Dac Alwan Practical Area**
	Razan Ibrahim2011, Fundamentals of Surveying, Amman - Community Library

13. Course name:
Mapping technology/ 2
14. Course code:
15. Chapter/Year:
quarterlythe second
16. Date this description was prepared

10/14/2024	
17. Available attendance forms:	
In presence	
18. Number of study hours (total) / Number of units (total):	
4/4	
19. Name of the course administrator (if more than one name is mentioned)	
Name: Nimat Hamid Jassim Email:niimat.jasim@stu.edu.iq	
20. Course objectives	
• ..... • ..... •	1- The student can learn about the principles of cartography and its integration with other specialization courses such as surveying and aerial surveying in preparing maps. 2- Raising the student's efficiency in drawing, designing, preparing and producing maps.
21. Teaching and learning strategies	
1- Theoretical lectures 2- Scientific discussions 3- Working in groups 4- Practical lectures in the ceremonies 5- Scientific seminars and presentation of the latest scientific developme within the specialization. 6- Scientific trips to work sites 7- Graduation projects for final year students	**Strategy**

22. Course structure					
Evaluation method	**Learning method**	**Name of the unit or topic**	**Required learning outcomes**	**Watches**	**The week**
Short exam **Oral questions** **Homework** **Short exam** **Short exam**	Theoretical explanation Providing types Maps Theoretical explanation Data show method	How to prepare the basic drawing		4 hours	the first
		Map copying and printing process		4 hours	the second
		Cartographic clearance generalization		4 hours	the third
		Map summary displacement locations		4 hours	Fourth
		Thematic maps, infographics, e-activity and digital maps		4 hours	Fifth
		Contour maps		4 hours	Sixth
		Edit contour map specifications		4 hours	Seventh
		Preparing a digital contour map		4 hours	The eighth
		Geographic Information System Concept		4 hours	Ninth
		Preparing a project using the programarc catalog		4 hours	tenth

		Landmark Demarcation		4 hours	eleventh
		Topography		4 hours	twelfth
		Program engagementsurfer		4 hours	thirteenth
		Program engagement GIS		4 hours	fourteenth
		Map design		4 hours	fifteenth
23. Course Evaluation					
Distribution as follows: 50 points for the endeavour (40 theoretical + 10 annual work). 50 points for the final exam.					
24. Learning and teaching resources					
	1- Dr. Hashem Yahya Al-Masraf, Principles Cartography, First Edition 2- Dr. Hashem Yahya Al-Masraf, practical exerci in cartography 3- Dr. Khader Al-Abbadi, Cartoon Graffiti, M Projections				

121. Course name
Global Navigation Satellite System **GNSS Global Navigation Satellite System (GNSS)**
122. Course code:
123. Chapter/Year:
quarterly
124. Date this description was prepared
10/13/2024
125. Available attendance forms:
In-person only
126. Number of study hours (total) / Number of units (total):

3 hours per week / 3 units

127. Name of the course administrator (if more than one name is mentioned)

Name: Hadeel Abbas Abdul Zahra
Email:

128. Course objectives

• ..... • ..... •	The student acquires the ability to use the system(GNSS) and the types of currently available and future satellite systems and monitoring methods using the GNSS system and explaining each method and learning about the principles of geodetic (geo, spheroid, coordinate systems

129. Teaching and learning strategies

Education StrategyHow to use the systemDGPS	**Strategy**

130. Course structure

Evaluation method	Learning method	Name of the unit or topic	Required learning outcomes	Watches	The week
Daily exams and discussion	Explaining the scientific material throughTheoretical explanation and practical application	Learn how it worksGPS and getting to know the GPS navigation device and its uses. Getting to know the sources of errors in the GPS system.	Learn how it worksDGPS	3 hours	the fir
Daily exams and	Explaining the scientific	Extract coordinates usingGPS and coordinate systems recognition	Know the studentGeographical and Cartesian	3 hours	the secon

discussion	material throughTheoretical explanation and practical application		coordinate systems		
Daily exams	Explaining the scientific material throughTheoretical explanation and practical application	Convert between coordinates Geography and map projection	Know the studentOn how Convert coordinates	3 hours	the thi
Daily exams	Explaining the scientific material throughTheoretical explanation and practical application	Learn about the coordinate system UTM .	Know the studentGeographical and Cartesian coordinate systems	3 hours	Fourth
Daily exams and discussion	Explaining the scientific material throughTheoretical explanation and practical application	Explaining monitoring methods using systemGNSS	Know the studenton Monitoring methods	3 hours	Fifth

Daily exams and discussion	Explaining the scientific material throughTheoretical explanation and practical application	Geodesy and surveying, and applications of geodesy	The student learns about geodesic space.	3 hours	Sixth
Daily exams and discussion	Explaining the scientific material throughTheoretical explanation and practical application	Geodesy sections and identification Principles of geodetic (geo, Spheroid, Coordinate Systems	Help the student to know Geospheroid	3 hours	Seven
Daily exams and discussion	Explaining the scientific material throughTheoretical explanation and practical application	Explanation of monitoring methods using the systemGNSS	The student learns about monitoring methods.	3 hours	The eighth
Daily exams and discussion	Explaining the scientific material throughTheoretical explanation and	Explanation of the parts of the system GNSS type (Leica Viva)	Know how the system works	3 hours	Ninth

	practical application				
Daily exams and discussion	Explaining the scientific material throughTheoretical explanation and practical application	How to make a job and configure the device (GS10, GS15	Preparing the deviceGS10	3 hours	tenth
Daily exams and discussion	Explaining the scientific material throughTheoretical explanation and practical application	Create ground control points in the field in a wayPost Processing and processing of monitored data with the (LGO) program	The student learns about creation points	3 hours	elever
Daily exams and discussion	Explaining the scientific material throughTheoretical explanation and practical application	The connection between the parts of the device is: (Controller and rover -base and Controller	The student learns about the connection between the types of devices.	3 hours	the secon ten
Daily exams and	Explaining the scientific material throughTheoretical	Finding the coordinates of an unknown pointX,Y,Z)	Know the student Find coordinates	3 hours	the thi ten

discussion	explanation and practical application				
Daily exams and discussion	Explaining the scientific material throughTheoretical explanation and practical application	Processing them by sending them to correction sites via the Internet	The student learns how to find ways to correct	3 hours	Fourth ten
Daily exams and discussion	Explaining the scientific material throughTheoretical explanation and practical application	Work on a project andJob site specific, stakeout & survey	The student learns how to create a project.	3 hours	fifteen

131. Course Evaluation

Distribution as follows: 50 points for the endeavour (40 theoretical + 10 annual work). 50 points for the final exam.

132. Learning and teaching resources

	1.**Lectures by Dr. Muhammad Mahna Al-Sahli on Introduction to Geographic Information Systems / Kuwait University / College of Social Sciences**
	2. Overview of Geographic Informat SystemsGIS / Dr. Muhammad Yaqo Muhammad Saeed / United Arab Emira University.

	3.**Global Positioning System Basics/ Ministry Higher Education and Scientific Resear University of Mosul, Remote Sensing Cent Prepared by Sabah Hussein Ali**
	4.Foundations of Geodetic Surveying and GPS Dr. Juma Muhammad Dawood 1433/2012

61.Course name:
Surveying programs
62. Course code:
63. Semester/Year: Annual
quarterly
64. Date this description was prepared:
10/14/2024
65. Available attendance forms:
Just my work
66. Number of study hours (total) / Number of units (total):
3 units (3 units per semester)
67. Name of the course administrator (if more than one name is mentioned)
Name: Asmaa Hamdan Anid (Decade 315) Email:asmaahammdan93@gmail.com
68. Course objectives
The student will be able to use the program(Auto cad civil 3d) for the purpose of representing the data monitored in the field in modern monitoring devices that deal with points such as (Total station, DGPS) and displaying them in the form of a map according to the purpose of that.
69. Teaching and learning strategies

17.Cognitive strategies. 18.Active learning strategies. 19.Cooperative learning strategies. 20.Discussion strategy.	**Strategy**

70. Course structure

Evaluation method	Learning method	Name of the unit or topic	Required learning outcomes	Watches	The week
Chapter Two					
Practical exams and discussion	Practical lectures	Program introduction, comparison between regular AutoCAD and AutoCAD Civil	1- The student gets acquainted with the program interface.	3 hours (practical)	the first
		Create a project draft within the design specifications.		3 hours (practical)	the second
		Working with point displays.		3 hours (practical)	the third
		Point formation		3 hours (practical)	Fourth
		Point formation		3 hours (practical)	Fifth
		Organize points		3 hours (practical)	Sixth
		Import points		3 hours (practical)	Seventh
		Written supplementLabel		3 hours (practical)	The eighth
		Tak Bell and Table Formation		3 hours (practical)	Ninth
		Working withTerrain Model Explorer		3 hours (practical)	tenth
		Edit surface model		3 hours (practical)	eleventh
		Contour line manufacturing		3 hours (practical)	twelfth
		Clip making.		3 hours (practical)	thirteenth

		Clips making		3 hours (practical)	fourteenth
		Volume calculation		3 hours (practical)	fifteenth

71. Course Evaluation
Distribution as follows: 50 points for the endeavour (40 theoretical + 10 annual work). 50 points for the final exam.

72. Learning and teaching resources	
	Required textbooks (methodology if any)
- Program explanationCivil 3D by the author Eng. Khaled Ahmed Abdel Karim. - Design and implementation of road works by the author, Engineer Khaled Ahmed Abdel Karim.	Main References (Sources)
Reviewing many scientific journals issued by various Iraqi universities, in addition to visits to scientific libraries and the institute's library.	Recommended supporting books and references (scientific journals, reports, etc.)
	Electronic references, websites

1. Course name:
Graduation project
2. Course code:
3. Semester/Year: Annual
annual/ Second year
4. Date this description was prepared:
03/14/2024
5. Available attendance forms:
In-person only
6. Number of study hours (total) / Number of units (total):
60 hours in the second semester (2 hours of practical work over 30 weeks) / 4 units

7. Name of the course administrator (if more than one name is mentioned)
Name: Dr. Aqeel Mohammed Hammood Email: aqeel.almosawi@stu.edu.iq Name: Marwan Adel Hasan Email: Marwan.adil@stu.edu.iqEmail: Name: Nimat Hamid Jassim Email: Niimat.jasim@stu.edu.iq Name: Balqis Barghash Hamoud Email:balqeebarghash1960@gmail.com Name: Fatima Abdul Razzaq Mohammed Name: Luay M. Abdul Kareem Email: luay.abdulkareem@stu.edu.iq Email:Fatima.abdulrazaq@stu.edu.iq Name: Asmaa Hamdan Aneed Email:asmaahammdan93@gmail.com
8. Course objectives
Students implement a project within the specialized subjects in civil technology, carry out all field and office work, and submit a final report with all the necessary calculations, plans, and maps.
9. Teaching and learning strategies

1. Cognitive strategies. 2. Active learning strategies. 3. Cooperative learning strategies. 4. Discussion strategy.	**Strategy**

10. Course structure

Evaluation method	**Learning method**	**Name of the unit or topic**	**Required learning outcomes**	**Watches**	**The week**
Chapter One					
Reports and discussions	Practical lectures	Conduct research and review available references and resources related to the project topic, consult specialists and departments to gain more knowledge on the topic, and write summaries on how to plan the project and schedule its timing.	1- Enabling the student to work in groups and develop team spirit.	2 hours per week (practical)	First to third

		Revising the information available above and preparing the necessary equipment, devices, panels, symbols and other accessories, and starting to implement the project in its field or laboratory stages first, then the drawing and the calculations, plans and maps that follow, according to the nature of the project.	2- Scientific research skill and conducting studies and research. 3- Applying what was learned in the various stages of study to form a practical knowledge base for future field work.		Fourth to Seventh
		Completion of field, laboratory or drawing work related to the project and according to the instructions of the supervising faculty member			The eighth To the twenty-fifth
		Conducting final calculations, drawings, plans and maps and presenting the final project report to the relevant supervisor.			twenty-sixth to twenty-ninth
		Submit and conduct the final project evaluation interview.			thirty

11. Course Evaluation

Distribution as follows: 100 degrees

12. Learning and teaching resources

	Required textbooks (methodology if any
	Main References (Sources)
Reviewing many scientific journals issued by various Iraqi universities, in addition to visits to scientific libraries and the institute's library.	Recommended supporting books and references (scientific journals, reports, etc.)
	Electronic references, websites