

This academic program description provides a brief summary of the most important characteristics of the program and the learning outcomes expected of the student, proving whether he has made maximum use of the available opportunities. It is accompanied by a description of each course within the program

((Colleges and Institutes Academic Program Description Form))

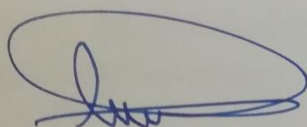
University: Northern Technical University

Faculty / Institute: - Technical Institute of Dour

Scientific Department: - **Medical laboratory techniques**

Date of filling out the file: 1/9/2021

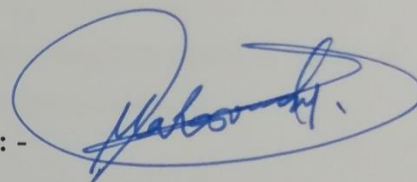
Signature: -



The name of the head of the department: -.

Dr. Luay Manna Ibrahim

Signature: -



The name of the scientific assistant: -

Assist.Prof.Dr. Maqsood Adel Mahmoud

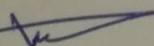
Check the file by

Quality Assurance and University Performance Division

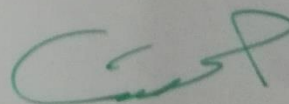
Name of the director of the Quality Assurance and University Performance

Division: - Assist.Lec. Haider Ali Mohsen

Dating: -



Signature: -



Assist.Prof.Dr. Maha Elttayef Jasim

Dean's endorsement

## Course description form

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1	Educational institution	Northern Technical University/Technical Institute of Dour
2	Scientific Department / Center	Medical laboratory techniques
3	Academic or professional program name	Laboratory techniques and quality control DIP11
4	Final certificate name	Technical Diploma in Medical Laboratories
5	Academic system: annual / courses / other	Annual
6	Accredited Accreditation Program	World Federation of Medical Education (WFME)
7	Other external influences	Practical training in state institutions, conferences and seminars
8	The date the description	1/9/2021
9	Educational institution	Northern Technical University/Technical Institute of Dour
<b>A- Cognitive goals</b>		
A – 1	To identify the priorities of laboratory machines and equipment as well as to identify the principles of microbiology	
A – 2	To identify the principles of bacteriology and the principles of hematology	
A – 3	To identify the principles of urine analysis and the principles of quality control	
<b>B- The skills objectives of the program</b>		
B – 1	The ability to work and integrate into multidisciplinary teams	
B – 2	The ability to design and conduct seminars as well as analyze and interpret data.	
B – 3	The ability to use modern technologies, skills and specialized tools	
B – 4	The ability to identify and formulate medical problems in the field of specialization	
Teaching and learning methods (Theoretical lectures / discussion and dialogue / practical lectures / field visits / seminars / laboratories / office activities / solving examples / graduation project / summer training))		
Evaluation methods (Oral exams/ Written exams/ Weekly reports/ Daily attendance/ Semester and final exams))		
<b>C - emotional and value goals</b>		

<b>C – 1</b>	The ability to communicate effectively with stakeholders in the field of specialization
<b>C – 2</b>	Acknowledgment of the need and the ability to engage in lifelong learning
<b>C – 3</b>	Knowledge of contemporary issues in the field of specialization
<b>C – 4</b>	The broad learning necessary to understand the impact of solutions globally, economic problems and the social environment
Teaching and learning methods (Theoretical lectures / discussion and dialogue / practical lectures / field visits / seminars / laboratories / office activities / solving examples / graduation project / summer training))	
Evaluation methods (Oral tests / written tests / observation / cumulative record of the student))	
D- Transferred general and rehabilitative skills (other skills related to employability and personal development)	
<b>D – 1</b>	Improve their debating skills
<b>D – 2</b>	Raising their research perceptions and transferring students from education to learning

<b>10</b>	<b>Infrastructure</b>
Required course books	Available for free in the department and the institute's library
Key references (main)	Available for free in the department and the institute's library
Electronic references, websites	The internet

<b>11</b>	<b>Curriculum development plan</b>
-Creating curricula that are appropriate to the labor market -Holding scientific symposia and conferences aimed at updating the curricula - Follow up on scientific developments in the field of specialization	

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<b>1</b>	Educational institution	Northern Technical University/Technical Institute of Dour
<b>2</b>	Scientific Department / Center	Medical laboratory techniques
<b>3</b>	Academic or professional program name	Histological and cellular slides DIP12
<b>4</b>	Final certificate name	Technical Diploma in Medical Laboratories
<b>5</b>	Academic system: annual / courses / other	Annual
<b>6</b>	Accredited Accreditation Program	World Federation of Medical Education (WFME)
<b>7</b>	Other external influences	Practical training in state institutions, conferences and seminars
<b>8</b>	The date the description	1/9/2021
<b>9</b>	Educational institution	Northern Technical University/Technical Institute of Dour
<b>A- Cognitive goals</b>		
<b>A - 1</b>	The student's ability to prepare fixed slides for different parts of the body	
<b>A - 2</b>	Fixation of dyes for tissue slides and body fluid smears	
<b>A - 3</b>	Preparing all chemical fluids needed and fixing and preserving the tissue sample	
<b>B- The skills objectives of the program</b>		
<b>B - 1</b>	The ability to work and integrate into multidisciplinary teams	
<b>B - 2</b>	The ability to design and conduct seminars as well as analyze and interpret data.	
<b>B - 3</b>	The ability to use modern technologies, skills and specialized tools	
<b>B - 4</b>	The ability to identify and formulate medical problems in the field of specialization	
Teaching and learning methods (Theoretical lectures / discussion and dialogue / practical lectures / field visits / seminars / laboratories / office activities / solving examples / graduation project / summer training))		
Evaluation methods (Oral exams/ Written exams/ Weekly reports/ Daily attendance/ Semester and final exams))		

<b>C - emotional and value goals</b>	
<b>C – 1</b>	The ability to communicate effectively with stakeholders in the field of specialization
<b>C – 2</b>	Acknowledgment of the need and the ability to engage in lifelong learning
<b>C – 3</b>	Knowledge of contemporary issues in the field of specialization
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<b>D - 1</b>	Improve their debating skills
<b>D – 2</b>	Raising their research perceptions and transferring students from education to learning

<b>10</b>	<b>Infrastructure</b>
Required course books	Available for free in the department and the institute's library
Key references (main)	Available for free in the department and the institute's library
Electronic references, websites	The internet

<b>11</b>	<b>Curriculum development plan</b>
<ul style="list-style-type: none"> <li>-Creating curricula that are appropriate to the labor market</li> <li>-Holding scientific symposia and conferences aimed at updating the curricula</li> <li>- Follow up on scientific developments in the field of specialization</li> </ul>	

## Course description form

**This academic program description provides a brief summary of the most important characteristics of the program and the learning outcomes expected of the student, proving whether he has made maximum use of the available opportunities. It is accompanied by a description of each course within the program**

1	Educational institution	Northern Technical University/Technical Institute of Dour
2	Scientific Department / Center	Medical laboratory techniques
3	Academic or professional program name	Laboratory equipment DIP13
4	Final certificate name	Technical Diploma in Medical Laboratories
5	Academic system: annual / courses / other	Annual
6	Accredited Accreditation Program	World Federation of Medical Education (WFME)
7	Other external influences	Practical training in state institutions, conferences and seminars
8	The date the description	1/9/2021
9	Educational institution	Northern Technical University/Technical Institute of Dour
<b>A- Cognitive goals</b>		
A - 1	Cover and understand all machines used in laboratories	
A - 2	Know the types of equipment which are used in technical laboratories	
A - 3	Knowledge of the working principle of each of the machines and their uses	
<b>B- The skills objectives of the program</b>		
B - 1	The ability to work and integrate into multidisciplinary teams	
B - 2	The ability to design and conduct seminars as well as analyze and interpret data.	
B - 3	The ability to use modern technologies, skills and specialized tools	
B - 4	The ability to identify and formulate medical problems in the field of specialization	
Teaching and learning methods (Theoretical lectures / discussion and dialogue / practical lectures / field visits / seminars / laboratories / office activities / solving examples / graduation project / summer training))		
Evaluation methods (Oral exams/ Written exams/ Weekly reports/ Daily attendance/ Semester and final exams))		



<b>C - emotional and value goals</b>	
<b>C – 1</b>	The ability to communicate effectively with stakeholders in the field of specialization
<b>C – 2</b>	Acknowledgment of the need and the ability to engage in lifelong learning
<b>C – 3</b>	Knowledge of contemporary issues in the field of specialization
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<b>1</b>	Educational institution	Northern Technical University/Technical Institute of Dour
<b>2</b>	Scientific Department / Center	Medical laboratory techniques
<b>3</b>	Academic or professional program name	DIP14 . Blood Transfusion
<b>4</b>	Final certificate name	Technical Diploma in Medical Laboratories
<b>5</b>	Academic system: annual / courses / other	Courses
<b>6</b>	Accredited Accreditation Program	World Federation of Medical Education (WFME)
<b>7</b>	Other external influences	Practical training in state institutions, conferences and seminars
<b>8</b>	The date the description	1/9/2021
<b>9</b>	Educational institution	Northern Technical University/Technical Institute of Dour
<b>A- Cognitive goals</b>		
<b>A - 1</b>	Identify the work of the blood bank and the work of the different blood groups, and conducting tests of blood compatibility. Doing other blood bank checks	
<b>B- The skills objectives of the program</b>		
<b>B – 1</b>	The ability to work and integrate into multidisciplinary teams	
<b>B – 2</b>	The ability to design and conduct seminars as well as analyze and interpret data.	
<b>B - 3</b>	The ability to use modern technologies, skills and specialized tools	
<b>B - 4</b>	The ability to identify and formulate medical problems in the field of specialization	
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Evaluation methods (Oral exams/ Written exams/ Weekly reports/ Daily attendance/ Semester and final exams))		



<b>C - emotional and value goals</b>	
<b>C – 1</b>	The ability to communicate effectively with stakeholders in the field of specialization
<b>C – 2</b>	Acknowledgment of the need and the ability to engage in lifelong learning
<b>C – 3</b>	Knowledge of contemporary issues in the field of specialization
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Required course books	Available for free in the department and the institute's library
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2	Scientific Department / Center	Medical laboratory techniques
3	Academic or professional program name	Histology and Anatomy DIP15
4	Final certificate name	Technical Diploma in Medical Laboratories
5	Academic system: annual / courses / other	Annual
6	Accredited Accreditation Program	World Federation of Medical Education (WFME)
7	Other external influences	Practical training in state institutions, conferences and seminars
8	The date the description	1/9/2021
9	Educational institution	Northern Technical University/Technical Institute of Dour
<b>A- Cognitive goals</b>		
A - 1	Identify the general anatomy of the human body and vision of a system mechanism member. The study also investigates all kinds of tissue under the microscope	
A - 2	Recognize the structure and shape of each organ in all parts of the body	
A - 3	Learn how to take samples from all parts of the body	
A - 4	Knowing the differences between the different tissues of the body and knowing the microscopic structure to help in studying all cases of abnormal tissues of the patient.	
<b>B- The skills objectives of the program</b>		
B – 1	The ability to work and integrate into multidisciplinary teams	
B – 2	The ability to design and conduct seminars as well as analyze and interpret data.	
B - 3	The ability to use modern technologies, skills and specialized tools	
B - 4	The ability to identify and formulate medical problems in the field of specialization	

Teaching and learning methods ((Theoretical lectures / discussion and dialogue / practical lectures / field visits / seminars / laboratories / office activities / solving examples / graduation project / summer training))	
Evaluation methods ((Oral exams/ Written exams/ Weekly reports/ Daily attendance/ Semester and final exams))	
<b>C - emotional and value goals</b>	
<b>C – 1</b>	The ability to communicate effectively with stakeholders in the field of specialization
<b>C – 2</b>	Acknowledgment of the need and the ability to engage in lifelong learning
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<b>D - 1</b>	Improve their debating skills
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<b>1</b>	Educational institution	Northern Technical University/Technical Institute of Dour
<b>2</b>	Scientific Department / Center	Medical laboratory techniques
<b>3</b>	Academic or professional program name	Nursing Essentials DIP16
<b>4</b>	Final certificate name	Technical Diploma in Medical Laboratories
<b>5</b>	Academic system: annual / courses / other	Annual
<b>6</b>	Accredited Accreditation Program	World Federation of Medical Education (WFME)
<b>7</b>	Other external influences	Practical training in state institutions, conferences and seminars
<b>8</b>	The date the description	1/9/2021
<b>9</b>	Educational institution	Northern Technical University/Technical Institute of Dour

### A- Cognitive goals

<b>A - 1</b>	Learn the basics of nursing, first aid, laboratory and professional in the field of nursing and ways of dealing with the patient during his presence in the medical laboratories.
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### B- The skills objectives of the program

<b>B – 1</b>	The ability to work and integrate into multidisciplinary teams
<b>B – 2</b>	The ability to design and conduct seminars as well as analyze and interpret data.
<b>B - 3</b>	The ability to use modern technologies, skills and specialized tools
<b>B - 4</b>	The ability to identify and formulate medical problems in the field of specialization

#### Teaching and learning methods

((Theoretical lectures / discussion and dialogue / practical lectures / field visits / seminars / laboratories / office activities / solving examples / graduation project / summer training))

#### Evaluation methods

((Oral exams/ Written exams/ Weekly reports/ Daily attendance/ Semester and final exams))

<b>C - emotional and value goals</b>	
<b>C – 1</b>	The ability to communicate effectively with stakeholders in the field of specialization
<b>C – 2</b>	Acknowledgment of the need and the ability to engage in lifelong learning
<b>C – 3</b>	Knowledge of contemporary issues in the field of specialization
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D- Transferred general and rehabilitative skills (other skills related to employability and personal development)	
<b>D - 1</b>	Improve their debating skills
<b>D – 2</b>	Raising their research perceptions and transferring students from education to learning

<b>10</b>	<b>Infrastructure</b>
Required course books	Available for free in the department and the institute's library
Key references (main)	Available for free in the department and the institute's library
Electronic references, websites	The internet

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<b>1</b>	Educational institution	Northern Technical University/Technical Institute of Dour
<b>2</b>	Scientific Department / Center	Medical laboratory techniques
<b>3</b>	Academic or professional program name	General Chemistry DIP17
<b>4</b>	Final certificate name	Technical Diploma in Medical Laboratories
<b>5</b>	Academic system: annual / courses / other	Annual
<b>6</b>	Accredited Accreditation Program	World Federation of Medical Education (WFME)
<b>7</b>	Other external influences	Practical training in state institutions, conferences and seminars
<b>8</b>	The date the description	1/9/2021
<b>9</b>	Educational institution	Northern Technical University/Technical Institute of Dour
<b>A- Cognitive goals</b>		
<b>A - 1</b>	Taking the general objectives of organic compounds and biochemistry and studying the differences of scientific experience and chemical interaction	
<b>A - 2</b>	The use and cleaning of laboratory equipment, the ability to use different chemical reagents, and the student's ability to prepare different concentrations of liquids	
<b>A - 3</b>	Identify the components of human biochemistry using laboratories and chemical methods, and enable the use of laboratory tools	
<b>B- The skills objectives of the program</b>		
<b>B – 1</b>	The ability to work and integrate into multidisciplinary teams	
<b>B – 2</b>	The ability to design and conduct seminars as well as analyze and interpret data.	
<b>B - 3</b>	The ability to use modern technologies, skills and specialized tools	
<b>B - 4</b>	The ability to identify and formulate medical problems in the field of specialization	
Teaching and learning methods (Theoretical lectures / discussion and dialogue / practical lectures / field visits / seminars)		



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Evaluation methods ((Oral exams/ Written exams/ Weekly reports/ Daily attendance/ Semester and final exams))	
<b>C - emotional and value goals</b>	
<b>C – 1</b>	The ability to communicate effectively with stakeholders in the field of specialization
<b>C – 2</b>	Acknowledgment of the need and the ability to engage in lifelong learning
<b>C – 3</b>	Knowledge of contemporary issues in the field of specialization
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Evaluation methods ((Oral tests / written tests / observation / cumulative record of the student))	
D- Transferred general and rehabilitative skills (other skills related to employability and personal development)	
<b>D - 1</b>	Improve their debating skills
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<b>Required course books</b>	<b>Available for free in the department and the institute's library</b>
<b>Key references (main)</b>	<b>Available for free in the department and the institute's library</b>
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<b>11</b>	<b>Curriculum development plan</b>
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2	Scientific Department / Center	Medical laboratory techniques
3	Academic or professional program name	Computer Applications (1) DIP18
4	Final certificate name	Technical Diploma in Medical Laboratories
5	Academic system: annual / courses / other	Annual
6	Accredited Accreditation Program	World Federation of Medical Education (WFME)
7	Other external influences	Practical training in state institutions, conferences and seminars
8	The date the description	1/9/2021
9	Educational institution	Northern Technical University/Technical Institute of Dour
<b>A- Cognitive goals</b>		
A - 1	The student should be able to deal with a computer, know how to use it, and understand how to use its software.	
<b>B- The skills objectives of the program</b>		
B – 1	The ability to work and integrate into multidisciplinary teams	
B – 2	The ability to design and conduct seminars as well as analyze and interpret data.	
B - 3	The ability to use modern technologies, skills and specialized tools	
B - 4	The ability to identify and formulate medical problems in the field of specialization	
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<b>C - emotional and value goals</b>	
<b>C – 1</b>	The ability to communicate effectively with stakeholders in the field of specialization
<b>C – 2</b>	Acknowledgment of the need and the ability to engage in lifelong learning
<b>C – 3</b>	Knowledge of contemporary issues in the field of specialization
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<b>1</b>	Educational institution	Northern Technical University/Technical Institute of Dour
<b>2</b>	Scientific Department / Center	Medical laboratory techniques
<b>3</b>	Academic or professional program name	Human Rights and Democracy DIP19
<b>4</b>	Final certificate name	Technical Diploma in Medical Laboratories
<b>5</b>	Academic system: annual / courses / other	Annual
<b>6</b>	Accredited Accreditation Program	World Federation of Medical Education (WFME)
<b>7</b>	Other external influences	Practical training in state institutions, conferences and seminars
<b>8</b>	The date the description	1/9/2021
<b>9</b>	Educational institution	Northern Technical University/Technical Institute of Dour
<b>A- Cognitive goals</b>		
<b>A - 1</b>	Human rights aim to achieve cultural progress among the people, to achieve social welfare, and to protect the basic freedom of the individual in general by respecting his basic rights in freedom, justice and equality.	
<b>B- The skills objectives of the program</b>		
<b>B – 1</b>	The ability to work and integrate into multidisciplinary teams	
<b>B – 2</b>	The ability to design and conduct seminars as well as analyze and interpret data.	
<b>B - 3</b>	The ability to use modern technologies, skills and specialized tools	
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Evaluation methods ((Oral exams/ Written exams/ Weekly reports/ Daily attendance/ Semester and final exams))		

<b>C - emotional and value goals</b>	
<b>C – 1</b>	The ability to communicate effectively with stakeholders in the field of specialization
<b>C – 2</b>	Acknowledgment of the need and the ability to engage in lifelong learning
<b>C – 3</b>	Knowledge of contemporary issues in the field of specialization
<b>C - 4</b>	The broad learning necessary to understand the impact of solutions globally, economic problems and the social environment
Teaching and learning methods ((Theoretical lectures / discussion and dialogue / practical lectures / field visits / seminars / laboratories / office activities / solving examples / graduation project / summer training))	
Evaluation methods ((Oral tests / written tests / observation / cumulative record of the student))	
D- Transferred general and rehabilitative skills (other skills related to employability and personal development)	
<b>D - 1</b>	Improve their debating skills
<b>D – 2</b>	Raising their research perceptions and transferring students from education to learning

<b>10</b>	<b>Infrastructure</b>
Required course books	Available for free in the department and the institute's library
Key references (main)	Available for free in the department and the institute's library
Electronic references, websites	The internet

<b>11</b>	<b>Curriculum development plan</b>
-Creating curricula that are appropriate to the labor market -Holding scientific symposia and conferences aimed at updating the curricula - Follow up on scientific developments in the field of specialization	

## Course description form

**This academic program description provides a brief summary of the most important characteristics of the program and the learning outcomes expected of the student, proving whether he has made maximum use of the available opportunities. It is accompanied by a description of each course within the program**

1	Educational institution	Northern Technical University/Technical Institute of Dour		
2	Scientific Department / Center	Medical laboratory techniques		
3	Academic or professional program name	Clinical Chemistry DIP21		
4	Final certificate name	Technical Diploma in Medical Laboratories		
5	Academic system: annual / courses / other	Annual		
6	Accredited Accreditation Program	World Federation of Medical Education (WFME)		
7	Other external influences	Practical training in state institutions, conferences and seminars		
8	The date the description	1/9/2021		
9	Educational institution	Northern Technical University/Technical Institute of Dour		
<b>A- Cognitive goals</b>				
A - 1	Human rights aim to achieve cultural progress among the people, to achieve social welfare, and to protect the basic freedom of the individual in general by respecting his basic rights in freedom, justice and equality.			
A - 2	To familiarize with clinical chemistry laboratories and the type of equipment which are used.			
<b>B- The skills objectives of the program</b>				
B – 1	The ability to work and integrate into multidisciplinary teams			
B – 2	The ability to design and conduct seminars as well as analyze and interpret data.			
B - 3	The ability to use modern technologies, skills and specialized tools			
B - 4	The ability to identify and formulate medical problems in the field of specialization			
Teaching and learning methods ((Theoretical lectures / discussion and dialogue / practical lectures / field visits / seminars / laboratories / office activities / solving examples / graduation project / summer training))				
Evaluation methods				



((Oral exams/ Written exams/ Weekly reports/ Daily attendance/ Semester and final exams))	
<b>C - emotional and value goals</b>	
<b>C – 1</b>	The ability to communicate effectively with stakeholders in the field of specialization
<b>C – 2</b>	Acknowledgment of the need and the ability to engage in lifelong learning
<b>C – 3</b>	Knowledge of contemporary issues in the field of specialization
<b>C - 4</b>	The broad learning necessary to understand the impact of solutions globally, economic problems and the social environment
Teaching and learning methods ((Theoretical lectures / discussion and dialogue / practical lectures / field visits / seminars / laboratories / office activities / solving examples / graduation project / summer training))	
Evaluation methods ((Oral tests / written tests / observation / cumulative record of the student))	
D- Transferred general and rehabilitative skills (other skills related to employability and personal development)	
<b>D - 1</b>	Improve their debating skills
<b>D – 2</b>	Raising their research perceptions and transferring students from education to learning

<b>10</b>	<b>Infrastructure</b>
Required course books	Available for free in the department and the institute's library
Key references (main)	Available for free in the department and the institute's library
Electronic references, websites	The internet

<b>11</b>	<b>Curriculum development plan</b>
-Creating curricula that are appropriate to the labor market -Holding scientific symposia and conferences aimed at updating the curricula - Follow up on scientific developments in the field of specialization	

## Course description form

**This academic program description provides a brief summary of the most important characteristics of the program and the learning outcomes expected of the student, proving whether he has made maximum use of the available opportunities. It is accompanied by a description of each course within the program**

<b>1</b>	Educational institution	Northern Technical University/Technical Institute of Dour
<b>2</b>	Scientific Department / Center	Medical laboratory techniques
<b>3</b>	Academic or professional program name	Hematology DIP22
<b>4</b>	Final certificate name	Technical Diploma in Medical Laboratories
<b>5</b>	Academic system: annual / courses / other	Annual
<b>6</b>	Accredited Accreditation Program	World Federation of Medical Education (WFME)
<b>7</b>	Other external influences	Practical training in state institutions, conferences and seminars
<b>8</b>	The date the description	1/9/2021
<b>9</b>	Educational institution	Northern Technical University/Technical Institute of Dour
<b>A- Cognitive goals</b>		
<b>A - 1</b>	Identify what is in the blood of laboratory equipment and various analysis and look at the different components of blood.	
<b>A - 2</b>	Identify the conduct analyzes of laboratory blood and the knowledge of clinical conditions associated with this analysis.	
<b>B- The skills objectives of the program</b>		
<b>B – 1</b>	The ability to work and integrate into multidisciplinary teams	
<b>B – 2</b>	The ability to design and conduct seminars as well as analyze and interpret data.	
<b>B - 3</b>	The ability to use modern technologies, skills and specialized tools	
<b>B - 4</b>	The ability to identify and formulate medical problems in the field of specialization	
Teaching and learning methods (Theoretical lectures / discussion and dialogue / practical lectures / field visits / seminars / laboratories / office activities / solving examples / graduation project / summer training))		
Evaluation methods (Oral exams/ Written exams/ Weekly reports/ Daily attendance/ Semester and final exams))		

<b>C - emotional and value goals</b>	
<b>C – 1</b>	The ability to communicate effectively with stakeholders in the field of specialization
<b>C – 2</b>	Acknowledgment of the need and the ability to engage in lifelong learning
<b>C – 3</b>	Knowledge of contemporary issues in the field of specialization
<b>C - 4</b>	The broad learning necessary to understand the impact of solutions globally, economic problems and the social environment
Teaching and learning methods ((Theoretical lectures / discussion and dialogue / practical lectures / field visits / seminars / laboratories / office activities / solving examples / graduation project / summer training))	
Evaluation methods ((Oral tests / written tests / observation / cumulative record of the student))	
D- Transferred general and rehabilitative skills (other skills related to employability and personal development)	
<b>D - 1</b>	Improve their debating skills
<b>D – 2</b>	Raising their research perceptions and transferring students from education to learning

<b>10</b>	<b>Infrastructure</b>
<b>Required course books</b>	<b>Available for free in the department and the institute's library</b>
<b>Key references (main)</b>	<b>Available for free in the department and the institute's library</b>
<b>Electronic references, websites</b>	<b>The internet</b>

<b>11</b>	<b>Curriculum development plan</b>
<b>-Creating curricula that are appropriate to the labor market</b> <b>-Holding scientific symposia and conferences aimed at updating the curricula</b> <b>- Follow up on scientific developments in the field of specialization</b>	

## Course description form

**This academic program description provides a brief summary of the most important characteristics of the program and the learning outcomes expected of the student, proving whether he has made maximum use of the available opportunities. It is accompanied by a description of each course within the program**

1	Educational institution	Northern Technical University/Technical Institute of Dour
2	Scientific Department / Center	Medical laboratory techniques
3	Academic or professional program name	Spores DIP23
4	Final certificate name	Technical Diploma in Medical Laboratories
5	Academic system: annual / courses / other	Annual
6	Accredited Accreditation Program	World Federation of Medical Education (WFME)
7	Other external influences	Practical training in state institutions, conferences and seminars
8	The date the description	1/9/2021
9	Educational institution	Northern Technical University/Technical Institute of Dour
<b>A- Cognitive goals</b>		
A - 1	At the end of the year, the student will be able to identify different microorganisms and the diseases resulting from those microorganisms.	
A - 2	Identify the different techniques to isolate the bacteria from clinical specimens, as well as the preparation of circles and methods of sterilization AGRO.	
<b>B- The skills objectives of the program</b>		
B – 1	The ability to work and integrate into multidisciplinary teams	
B – 2	The ability to design and conduct seminars as well as analyze and interpret data.	
B - 3	The ability to use modern technologies, skills and specialized tools	
B - 4	The ability to identify and formulate medical problems in the field of specialization	
Teaching and learning methods ((Theoretical lectures / discussion and dialogue / practical lectures / field visits / seminars / laboratories / office activities / solving examples / graduation project / summer training))		
Evaluation methods ((Oral exams/ Written exams/ Weekly reports/ Daily attendance/ Semester and final exams))		

<b>C - emotional and value goals</b>	
<b>C – 1</b>	The ability to communicate effectively with stakeholders in the field of specialization
<b>C – 2</b>	Acknowledgment of the need and the ability to engage in lifelong learning
<b>C – 3</b>	Knowledge of contemporary issues in the field of specialization
<b>C - 4</b>	The broad learning necessary to understand the impact of solutions globally, economic problems and the social environment
Teaching and learning methods ((Theoretical lectures / discussion and dialogue / practical lectures / field visits / seminars / laboratories / office activities / solving examples / graduation project / summer training))	
Evaluation methods ((Oral tests / written tests / observation / cumulative record of the student))	
D- Transferred general and rehabilitative skills (other skills related to employability and personal development)	
<b>D - 1</b>	Improve their debating skills
<b>D – 2</b>	Raising their research perceptions and transferring students from education to learning

<b>10</b>	<b>Infrastructure</b>	
	<b>Required course books</b>	<b>Available for free in the department and the institute's library</b>
	<b>Key references (main)</b>	<b>Available for free in the department and the institute's library</b>
	<b>Electronic references, websites</b>	<b>The internet</b>

11	<b>Curriculum development plan</b>
<b>-Creating curricula that are appropriate to the labor market</b> <b>-Holding scientific symposia and conferences aimed at updating the curricula</b> <b>- Follow up on scientific developments in the field of specialization</b>	

## Course description form

**This academic program description provides a brief summary of the most important characteristics of the program and the learning outcomes expected of the student, proving whether he has made maximum use of the available opportunities. It is accompanied by a description of each course within the program**

<b>1</b>	Educational institution	Northern Technical University/Technical Institute of Dour		
<b>2</b>	Scientific Department / Center	Medical laboratory techniques		
<b>3</b>	Academic or professional program name	Parasite DIP24		
<b>4</b>	Final certificate name	Technical Diploma in Medical Laboratories		
<b>5</b>	Academic system: annual / courses / other	Annual		
<b>6</b>	Accredited Accreditation Program	World Federation of Medical Education (WFME)		
<b>7</b>	Other external influences	Practical training in state institutions, conferences and seminars		
<b>8</b>	The date the description	1/9/2021		
<b>9</b>	Educational institution	Northern Technical University/Technical Institute of Dour		
<b>A- Cognitive goals</b>				
<b>A - 1</b>	At the end of the year, the student will be able to identify and diagnose human parasites and diseases.			
<b>A - 2</b>	Recognize the different techniques for diagnosing pathogenic parasites.			
<b>B- The skills objectives of the program</b>				
<b>B – 1</b>	The ability to work and integrate into multidisciplinary teams			
<b>B – 2</b>	The ability to design and conduct seminars as well as analyze and interpret data.			
<b>B - 3</b>	The ability to use modern technologies, skills and specialized tools			
<b>B - 4</b>	The ability to identify and formulate medical problems in the field of specialization			
Teaching and learning methods (Theoretical lectures / discussion and dialogue / practical lectures / field visits / seminars / laboratories / office activities / solving examples / graduation project / summer training))				
Evaluation methods (Oral exams/ Written exams/ Weekly reports/ Daily attendance/ Semester and final exams))				



<b>C - emotional and value goals</b>	
<b>C – 1</b>	The ability to communicate effectively with stakeholders in the field of specialization
<b>C – 2</b>	Acknowledgment of the need and the ability to engage in lifelong learning
<b>C – 3</b>	Knowledge of contemporary issues in the field of specialization
<b>C - 4</b>	The broad learning necessary to understand the impact of solutions globally, economic problems and the social environment
Teaching and learning methods ((Theoretical lectures / discussion and dialogue / practical lectures / field visits / seminars / laboratories / office activities / solving examples / graduation project / summer training))	
Evaluation methods ((Oral tests / written tests / observation / cumulative record of the student))	
D- Transferred general and rehabilitative skills (other skills related to employability and personal development)	
<b>D - 1</b>	Improve their debating skills
<b>D – 2</b>	Raising their research perceptions and transferring students from education to learning

<b>10</b>	<b>Infrastructure</b>
Required course books	Available for free in the department and the institute's library
Key references (main)	Available for free in the department and the institute's library
Electronic references, websites	The internet

<b>11</b>	<b>Curriculum development plan</b>
-Creating curricula that are appropriate to the labor market -Holding scientific symposia and conferences aimed at updating the curricula - Follow up on scientific developments in the field of specialization	

## Course description form

**This academic program description provides a brief summary of the most important characteristics of the program and the learning outcomes expected of the student, proving whether he has made maximum use of the available opportunities. It is accompanied by a description of each course within the program**

1	Educational institution	Northern Technical University/Technical Institute of Dour
2	Scientific Department / Center	Medical laboratory techniques
3	Academic or professional program name	DIP25 . Viruses
4	Final certificate name	Technical Diploma in Medical Laboratories
5	Academic system: annual / courses / other	Courses
6	Accredited Accreditation Program	World Federation of Medical Education (WFME)
7	Other external influences	Practical training in state institutions, conferences and seminars
8	The date the description	1/9/2021
9	Educational institution	Northern Technical University/Technical Institute of Dour
<b>A- Cognitive goals</b>		
A - 1	Student will get knowledge about diseases caused by viruses and how to diagnose that.	
<b>B- The skills objectives of the program</b>		
B – 1	The ability to work and integrate into multidisciplinary teams	
B – 2	The ability to design and conduct seminars as well as analyze and interpret data.	
B - 3	The ability to use modern technologies, skills and specialized tools	
B - 4	The ability to identify and formulate medical problems in the field of specialization	
Teaching and learning methods ((Theoretical lectures / discussion and dialogue / practical lectures / field visits / seminars / laboratories / office activities / solving examples / graduation project / summer training))		
Evaluation methods ((Oral exams/ Written exams/ Weekly reports/ Daily attendance/ Semester and final exams))		
<b>C - emotional and value goals</b>		
C – 1	The ability to communicate effectively with stakeholders in the field of specialization	

<b>C – 2</b>	Acknowledgment of the need and the ability to engage in lifelong learning
<b>C – 3</b>	Knowledge of contemporary issues in the field of specialization
<b>C - 4</b>	The broad learning necessary to understand the impact of solutions globally, economic problems and the social environment
Teaching and learning methods ((Theoretical lectures / discussion and dialogue / practical lectures / field visits / seminars / laboratories / office activities / solving examples / graduation project / summer training))	
Evaluation methods ((Oral tests / written tests / observation / cumulative record of the student))	
D- Transferred general and rehabilitative skills (other skills related to employability and personal development)	
<b>D - 1</b>	Improve their debating skills
<b>D – 2</b>	Raising their research perceptions and transferring students from education to learning

<b>10</b>	<b>Infrastructure</b>	
<b>Required course books</b>		<b>Available for free in the department and the institute's library</b>
<b>Key references (main)</b>		<b>Available for free in the department and the institute's library</b>
<b>Electronic references, websites</b>		<b>The internet</b>

11	Curriculum development plan
<ul style="list-style-type: none"><li>-Creating curricula that are appropriate to the labor market</li><li>-Holding scientific symposia and conferences aimed at updating the curricula</li><li>- Follow up on scientific developments in the field of specialization</li></ul>	

## Course description form

**This academic program description provides a brief summary of the most important characteristics of the program and the learning outcomes expected of the student, proving whether he has made maximum use of the available opportunities. It is accompanied by a description of each course within the program**

1	Educational institution	Northern Technical University/Technical Institute of Dour
2	Scientific Department / Center	Medical laboratory techniques
3	Academic or professional program name	Medicinal fungicide DIP26
4	Final certificate name	Technical Diploma in Medical Laboratories
5	Academic system: annual / courses / other	Annual
6	Accredited Accreditation Program	World Federation of Medical Education (WFME)
7	Other external influences	Practical training in state institutions, conferences and seminars
8	The date the description	1/9/2021
9	Educational institution	Northern Technical University/Technical Institute of Dour
<b>A- Cognitive goals</b>		
A - 1	The student will get knowledge about medical mycology and diseases caused by how to diagnose and treat	
<b>B- The skills objectives of the program</b>		
B – 1	The ability to work and integrate into multidisciplinary teams	
B – 2	The ability to design and conduct seminars as well as analyze and interpret data.	
B - 3	The ability to use modern technologies, skills and specialized tools	
B - 4	The ability to identify and formulate medical problems in the field of specialization	
Teaching and learning methods (Theoretical lectures / discussion and dialogue / practical lectures / field visits / seminars / laboratories / office activities / solving examples / graduation project / summer training))		
Evaluation methods (Oral exams/ Written exams/ Weekly reports/ Daily attendance/ Semester and final exams))		

<b>C - emotional and value goals</b>	
<b>C – 1</b>	The ability to communicate effectively with stakeholders in the field of specialization
<b>C – 2</b>	Acknowledgment of the need and the ability to engage in lifelong learning
<b>C – 3</b>	Knowledge of contemporary issues in the field of specialization
<b>C - 4</b>	The broad learning necessary to understand the impact of solutions globally, economic problems and the social environment
Teaching and learning methods ((Theoretical lectures / discussion and dialogue / practical lectures / field visits / seminars / laboratories / office activities / solving examples / graduation project / summer training))	
Evaluation methods ((Oral tests / written tests / observation / cumulative record of the student))	
D- Transferred general and rehabilitative skills (other skills related to employability and personal development)	
<b>D - 1</b>	Improve their debating skills
<b>D – 2</b>	Raising their research perceptions and transferring students from education to learning

<b>10</b>	<b>Infrastructure</b>
Required course books	Available for free in the department and the institute's library
Key references (main)	Available for free in the department and the institute's library
Electronic references, websites	The internet

<b>11</b>	<b>Curriculum development plan</b>
-Creating curricula that are appropriate to the labor market -Holding scientific symposia and conferences aimed at updating the curricula - Follow up on scientific developments in the field of specialization	

## Course description form

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1	Educational institution	Northern Technical University/Technical Institute of Dour
2	Scientific Department / Center	Medical laboratory techniques
3	Academic or professional program name	DIP27 Sera and Immunity
4	Final certificate name	Technical Diploma in Medical Laboratories
5	Academic system: annual / courses / other	Annual
6	Accredited Accreditation Program	World Federation of Medical Education (WFME)
7	Other external influences	Practical training in state institutions, conferences and seminars
8	The date the description	1/9/2021
9	Educational institution	Northern Technical University/Technical Institute of Dour
<b>A- Cognitive goals</b>		
A - 1	At the end of the study stage, the student is expected to master the basics of immunology, serology, immunological tests, methods of performing them, and techniques in order to reach the most accurate results. He is also expected to learn about the parts of the immune system and its work and how diseases are resisted in the body. He is also expected to be familiar with making laboratory tools and how to deal with laboratory samples that are submitted to the serology laboratory.	
A - 2	Handling and obtaining laboratory samples for immunological examinations, making the required dilutions, using micro-expression methods, and using tubes. And performing serological examinations and writing reports after reading the results, as well as interpreting them. Preparation of some antigens and antibodies with locally available capabilities.	
A - 3	Investigate some common diet diseases and immunological methods. Investigation of autoimmune diseases. Investigate many diseases of germs. Diagnosis of some diseases that cause parasites.	



<b>A - 4</b>	Identify the parts of the electrophoresis device, as well as the performance of the immunoelectrophoresis for the diagnosis of cancerous cases. Preparation of vaccines, as well as vaccinations and doses given from different types of vaccines. Preparation of solutions for immunological assays such as saline and buffer solution
<b>B- The skills objectives of the program</b>	
<b>B – 1</b>	The ability to work and integrate into multidisciplinary teams
<b>B – 2</b>	The ability to design and conduct seminars as well as analyze and interpret data.
<b>B - 3</b>	The ability to use modern technologies, skills and specialized tools
<b>B - 4</b>	The ability to identify and formulate medical problems in the field of specialization
Teaching and learning methods ((Theoretical lectures / discussion and dialogue / practical lectures / field visits / seminars / laboratories / office activities / solving examples / graduation project / summer training))	
Evaluation methods ((Oral exams/ Written exams/ Weekly reports/ Daily attendance/ Semester and final exams))	
<b>C - emotional and value goals</b>	
<b>C – 1</b>	The ability to communicate effectively with stakeholders in the field of specialization
<b>C – 2</b>	Acknowledgment of the need and the ability to engage in lifelong learning
<b>C – 3</b>	Knowledge of contemporary issues in the field of specialization
<b>C - 4</b>	The broad learning necessary to understand the impact of solutions globally, economic problems and the social environment
Teaching and learning methods ((Theoretical lectures / discussion and dialogue / practical lectures / field visits / seminars / laboratories / office activities / solving examples / graduation project / summer training))	
Evaluation methods ((Oral tests / written tests / observation / cumulative record of the student))	
<b>D- Transferred general and rehabilitative skills (other skills related to employability and personal development)</b>	
<b>D - 1</b>	Improve their debating skills
<b>D – 2</b>	Raising their research perceptions and transferring students from education to learning

<b>10</b>	<b>Infrastructure</b>
<b>Required course books</b>	<b>Available for free in the department and the institute's library</b>
<b>Key references (main)</b>	<b>Available for free in the department</b>

	and the institute's library
Electronic references, websites	The internet

<b>11</b>	<b>Curriculum development plan</b>
<ul style="list-style-type: none"> <li>-Creating curricula that are appropriate to the labor market</li> <li>-Holding scientific symposia and conferences aimed at updating the curricula</li> <li>- Follow up on scientific developments in the field of specialization</li> </ul>	

## Course description form

**This academic program description provides a brief summary of the most important characteristics of the program and the learning outcomes expected of the student, proving whether he has made maximum use of the available opportunities. It is accompanied by a description of each course within the program**

1	Educational institution	Northern Technical University/Technical Institute of Dour
2	Scientific Department / Center	Medical laboratory techniques
3	Academic or professional program name	DIP28 Research Project
4	Final certificate name	Technical Diploma in Medical Laboratories
5	Academic system: annual / courses / other	Annual
6	Accredited Accreditation Program	World Federation of Medical Education (WFME)
7	Other external influences	Practical training in state institutions, conferences and seminars
8	The date the description	1/9/2021
9	Educational institution	Northern Technical University/Technical Institute of Dour
<b>A- Cognitive goals</b>		
A - 1	Determines the salient goals of the project and learns how to deal with a group of students in order to support teamwork and draws the foundations for pathological analyzes in scientific laboratories through the practical project	
<b>B- The skills objectives of the program</b>		
B – 1	The ability to work and integrate into multidisciplinary teams	
B – 2	The ability to design and conduct seminars as well as analyze and interpret data.	
B - 3	The ability to use modern technologies, skills and specialized tools	
B - 4	The ability to identify and formulate medical problems in the field of specialization	
Teaching and learning methods ((Theoretical lectures / discussion and dialogue / practical lectures / field visits / seminars / laboratories / office activities / solving examples / graduation project / summer training))		
Evaluation methods ((Oral exams/ Written exams/ Weekly reports/ Daily attendance/ Semester and final exams))		

<b>C - emotional and value goals</b>	
<b>C – 1</b>	The ability to communicate effectively with stakeholders in the field of specialization
<b>C – 2</b>	Acknowledgment of the need and the ability to engage in lifelong learning
<b>C – 3</b>	Knowledge of contemporary issues in the field of specialization
<b>C - 4</b>	The broad learning necessary to understand the impact of solutions globally, economic problems and the social environment
Teaching and learning methods ((Theoretical lectures / discussion and dialogue / practical lectures / field visits / seminars / laboratories / office activities / solving examples / graduation project / summer training))	
Evaluation methods ((Oral tests / written tests / observation / cumulative record of the student))	
D- Transferred general and rehabilitative skills (other skills related to employability and personal development)	
<b>D - 1</b>	Improve their debating skills
<b>D – 2</b>	Raising their research perceptions and transferring students from education to learning

<b>10</b>	<b>Infrastructure</b>	
	<b>Required course books</b>	<b>Available for free in the department and the institute's library</b>
	<b>Key references (main)</b>	<b>Available for free in the department and the institute's library</b>
	<b>Electronic references, websites</b>	<b>The internet</b>

11	<b>Curriculum development plan</b>
<b>-Creating curricula that are appropriate to the labor market</b> <b>-Holding scientific symposia and conferences aimed at updating the curricula</b> <b>- Follow up on scientific developments in the field of specialization</b>	

## Course description form

**This academic program description provides a brief summary of the most important characteristics of the program and the learning outcomes expected of the student, proving whether he has made maximum use of the available opportunities. It is accompanied by a description of each course within the program**

<b>1</b>	Educational institution	Northern Technical University/Technical Institute of Dour
<b>2</b>	Scientific Department / Center	Medical laboratory techniques
<b>3</b>	Academic or professional program name	Professional Ethics DIP29
<b>4</b>	Final certificate name	Technical Diploma in Medical Laboratories
<b>5</b>	Academic system: annual / courses / other	Annual
<b>6</b>	Accredited Accreditation Program	World Federation of Medical Education (WFME)
<b>7</b>	Other external influences	Practical training in state institutions, conferences and seminars
<b>8</b>	The date the description	1/9/2021
<b>9</b>	Educational institution	Northern Technical University/Technical Institute of Dour
<b>A- Cognitive goals</b>		
<b>A - 1</b>	Learn the basic ethics of professional behavior for workers in medical specialties. Qualifying the graduate on professional behavior in dealing with his profession and achieving compatibility with himself and his professional environment (the patient and his companions, health workers and medical devices)	
<b>B- The skills objectives of the program</b>		
<b>B – 1</b>	The ability to work and integrate into multidisciplinary teams	
<b>B – 2</b>	The ability to design and conduct seminars as well as analyze and interpret data.	
<b>B - 3</b>	The ability to use modern technologies, skills and specialized tools	
<b>B - 4</b>	The ability to identify and formulate medical problems in the field of specialization	
Teaching and learning methods ((Theoretical lectures / discussion and dialogue / practical lectures / field visits / seminars / laboratories / office activities / solving examples / graduation project / summer training))		
Evaluation methods ((Oral exams/ Written exams/ Weekly reports/ Daily attendance/ Semester and final exams))		

<b>C - emotional and value goals</b>	
<b>C – 1</b>	The ability to communicate effectively with stakeholders in the field of specialization
<b>C – 2</b>	Acknowledgment of the need and the ability to engage in lifelong learning
<b>C – 3</b>	Knowledge of contemporary issues in the field of specialization
<b>C - 4</b>	The broad learning necessary to understand the impact of solutions globally, economic problems and the social environment
Teaching and learning methods ((Theoretical lectures / discussion and dialogue / practical lectures / field visits / seminars / laboratories / office activities / solving examples / graduation project / summer training))	
Evaluation methods ((Oral tests / written tests / observation / cumulative record of the student))	
D- Transferred general and rehabilitative skills (other skills related to employability and personal development)	
<b>D - 1</b>	Improve their debating skills
<b>D – 2</b>	Raising their research perceptions and transferring students from education to learning

<b>10</b>	<b>Infrastructure</b>	
	<b>Required course books</b>	<b>Available for free in the department and the institute's library</b>
	<b>Key references (main)</b>	<b>Available for free in the department and the institute's library</b>
	<b>Electronic references, websites</b>	<b>The internet</b>

11	<b>Curriculum development plan</b>
<b>-Creating curricula that are appropriate to the labor market</b> <b>-Holding scientific symposia and conferences aimed at updating the curricula</b> <b>- Follow up on scientific developments in the field of specialization</b>	

## Course description form

**This academic program description provides a brief summary of the most important characteristics of the program and the learning outcomes expected of the student, proving whether he has made maximum use of the available opportunities. It is accompanied by a description of each course within the program**

1	Educational institution	Northern Technical University/Technical Institute of Dour
2	Scientific Department / Center	Medical laboratory techniques
3	Academic or professional program name	Computer Applications (2) DIP210
4	Final certificate name	Technical Diploma in Medical Laboratories
5	Academic system: annual / courses / other	Annual
6	Accredited Accreditation Program	World Federation of Medical Education (WFME)
7	Other external influences	Practical training in state institutions, conferences and seminars
8	The date the description	1/9/2021
9	Educational institution	Northern Technical University/Technical Institute of Dour
<b>A- Cognitive goals</b>		
A - 1	The student should be familiar with the different applications of the computer. And that he can distinguish between the types of software that can be dealt with.	
<b>B- The skills objectives of the program</b>		
B – 1	The ability to work and integrate into multidisciplinary teams	
B – 2	The ability to design and conduct seminars as well as analyze and interpret data.	
B - 3	The ability to use modern technologies, skills and specialized tools	
B - 4	The ability to identify and formulate medical problems in the field of specialization	
Teaching and learning methods (Theoretical lectures / discussion and dialogue / practical lectures / field visits / seminars / laboratories / office activities / solving examples / graduation project / summer training))		
Evaluation methods (Oral exams/ Written exams/ Weekly reports/ Daily attendance/ Semester and final exams))		



<b>C - emotional and value goals</b>	
<b>C – 1</b>	The ability to communicate effectively with stakeholders in the field of specialization
<b>C – 2</b>	Acknowledgment of the need and the ability to engage in lifelong learning
<b>C – 3</b>	Knowledge of contemporary issues in the field of specialization
<b>C - 4</b>	The broad learning necessary to understand the impact of solutions globally, economic problems and the social environment
Teaching and learning methods ((Theoretical lectures / discussion and dialogue / practical lectures / field visits / seminars / laboratories / office activities / solving examples / graduation project / summer training))	
Evaluation methods ((Oral tests / written tests / observation / cumulative record of the student))	
D- Transferred general and rehabilitative skills (other skills related to employability and personal development)	
<b>D - 1</b>	Improve their debating skills
<b>D – 2</b>	Raising their research perceptions and transferring students from education to learning

<b>10</b>	<b>Infrastructure</b>
Required course books	Available for free in the department and the institute's library
Key references (main)	Available for free in the department and the institute's library
Electronic references, websites	The internet

<b>11</b>	<b>Curriculum development plan</b>
<ul style="list-style-type: none"> <li>-Creating curricula that are appropriate to the labor market</li> <li>-Holding scientific symposia and conferences aimed at updating the curricula</li> <li>- Follow up on scientific developments in the field of specialization</li> </ul>	