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2020

Program Specification

Program Name: Bachelor in Clinical Laboratory Sciences (Program Code: 373000)	
Qualification Level: Level-6	
Department: Department of Clinical Laboratory Sciences	
College: College of Applied Medical Sciences	
Institution: Taif University	

قسم المخبرات
Laboratory Department
TU
جامعة الطائف
TAIF UNIVERSITY

Content

A. Program Identification and General Information

1. Program Main Location:
College of Applied Medical Sciences, King Abdulaziz Specialist Hospital Complex, Taif.
2. Branches Offering the Program:
University College - Turabah
3. Reasons for Establishing the Program: (Economic, social, cultural, and technological reasons, and national needs and development, etc.)

The Bachelor Program of Clinical Laboratory Sciences at Taif University has been established in pursuit of improving healthcare services in Kingdom of Saudi Arabia. This necessitates preparing eminent clinical laboratory specialists having excellent knowledge, skills, competencies and values, allowing them to practice clinical laboratory profession commensurate with highest standards that enables them to do the following.

- Performing laboratory investigations with minimal error and understand its relationship to clinical conditions.
- Endorsing partnerships with other health professionals at national and global level, to promote health and well-being of the society.
- Emphasizing civic and moral responsibility, and a commitment to basic values of human life and community.

Consistent with nation's need, building a vibrant society and escalating its economy, demands empowerment of healthcare system depending on a workforce constituted by its own citizens to utilize the skills of its youth in healthcare services and minimize the expenses incurred in recruiting foreign labor. The program initiation pave the way for creating a job market for its graduates specialized in laboratory medicine at public, private and defense hospitals, primary healthcare clinics, research and development laboratories, forensic and commercial laboratories, and teaching institutions. This is seen as filling the job lacunae through increasing employment rates, thriving its economy based on educational developments through advanced academic curricula of the established program. Nonetheless, initiating the clinical laboratory sciences program at Taif University drives sustainable development of Saudi society through self-reliance.

The socio-cultural aspect in establishing the program stems from the country's national policy to deliver excellent healthcare services to its citizens through production of outstanding healthcare cadres of which clinical laboratory graduates constitute an indispensable share. Considering ethics and values attached to human life, the program ensures services given by its graduates to be in cultural harmony with the Saudi community needs.

The increasing demand for fulfilling national needs and paving the way for technological developments in line with national policies relies on having distinguished professionals to efficiently use technology in healthcare system through high quality

education and research in the field of laboratory medicine. The clinical laboratory sciences bachelor program has been instituted with an aim of producing scientifically-driven cadres who can effectively contribute to national needs, scientific and technological developments through appropriate training and research practice.

4. Total Credit Hours for Completing the Program: (160 credit hours)

The program is taught over a span of five years constituting twelve semesters in the first four years and three semesters during internship, with a total of 160 credit hours. This includes first year (21 hours), university requirement subjects (22 hours) and internship (31 hours) besides program requirements (86 hours).

Details are given in the study plan on pages 09 and 10.

5. Professional Occupations/Jobs:

- Licensed medical laboratory technologists in clinics and hospitals
- Teaching jobs in universities and other teaching institutions
- Researcher in Industry (Research and Development)
- Scientist in biotechnology companies
- Technologist in forensic departments
- Molecular geneticist in specialized laboratories

6. Major Tracks/Pathways (if any)**:**

Major track/pathway	Credit hours (For each track)	Professional Occupations/Jobs (For each track)
None	---	---

7. Intermediate Exit Points/Awarded Degree (if any)**:**

Intermediate exit points/awarded degree	Credit hours
None	---

B. Mission, Goals, and Learning Outcomes

1. Program Mission:

"To prepare competent laboratory specialists contributing in health services and scientific research for the purpose of community development".

2. Program Goals:

To graduate competent clinical laboratory specialists who possess,
1) Knowledge and skills commensurate with their profession.
2) Capability of contributing to clinical laboratory research.
3) Commitment to ethical, humane and cultural values of patient care.
4) Ability to empower the community through continuous awareness and healthcare services.

3. Relationship between Program Mission and Goals and the Mission and Goals of the Institution/College.

The mission and goals of the program of Clinical Laboratory Sciences is consistent with that of Taif University to achieve its international recognition through effective educational and research activities. The program will eventually benefit the community, and produce academically- and scientifically- competent graduates ensuring sustainable development of the society. There is an alignment between the mission and goals of the program of Clinical Laboratory Sciences with that of institutional mission and goals as well as that for the college.

Alignment of Program Mission with University Mission

Program Mission Components \ University Mission Components		Taif University Mission		
		EDUCATION	RESEARCH	COMMUNITY SERVICE
Program Mission	EDUCATION	√		√
	RESEARCH		√	
	COMMUNITY SERVICE			√

Program Mission:

To prepare competent laboratory specialists contributing in health services and scientific research for the purpose of community development.

Taif University Mission:

To develop nationally competitive competencies that contribute to the production of knowledge and its transformation into an engine for development.

Alignment of Program Mission with College Mission

College Mission Components / Program Mission Components		Applied Medical Sciences College Mission		
		(EDUCATION)	(RESEARCH)	(COMMUNITY SERVICE)
Program Mission	EDUCATION	√		√
	RESEARCH		√	
	COMMUNITY SERVICE			√

College of Applied Medical Sciences Mission:

To develop nationally competitive competencies in health sciences that contribute to scientific research for community development.

Alignment of Program Goals with TU Strategic Objectives

	TU Strategic Objective 1	TU Strategic Objective 2	TU Strategic Objective 3
Program Goal 1	√		
Program Goal 2		√	
Program Goal 3			√
Program Goal 4		√	√

Program Goals:

To graduate competent clinical laboratory specialists who possess,
1- Knowledge and skills commensurate with their profession.
2- Capability of contributing to clinical laboratory research.
3- Commitment to ethical, humane and cultural values of patient care.
4- Ability to empower the community through continuous awareness and healthcare services.

Taif University Strategic Objectives:
1- Improving the quality and outcomes of education.
2- Effective participation of scientific research in community development.
3- Effective participation in the provision and development of community services.
4- Raising the efficiency of the administrative system.
5- Raising the efficiency of human resources and infrastructure.
6- Raising financial efficiency and development of self-resources.

Hyperlink
• [Alignment between College and Program mission](#)
• [Alignment between University and Program mission](#)

4. Graduate Attributes:

Characteristics of Clinical Laboratory Sciences graduates:

A. Apply **"knowledge and critical thinking"** in laboratory practice.

B. Employ "**effective communication skills"** in dealing with individuals and health care providers.

C. Demonstrate "**professionalism"** in the workplace in accordance with laboratory code of ethics.

D. Possess "**problem-solving and management skills"** across different responsibilities in laboratory practice.

5. Program Learning Outcomes*

Knowledge and Understanding	
K1	Describe cellular and molecular mechanisms underlying physiological processes and anomalies related to disease states.
K2	Recognize principles applied for basic/special clinical laboratory settings including specimen suitability, instrumentation, testing and reporting.
Skills	
S1	Perform laboratory testing process in a safe and proficient manner.
S2	Interpret laboratory data and correlate abnormal results with clinical conditions.
S3	Evaluate quality assurance measures in clinical laboratory through proper procedures.
S4	Employ effective communication, problem-solving and management strategies in relation to clinical laboratory.
S5	Practice basic clinical laboratory research and data analysis.
Values	
V1	Demonstrate work ethics and professionalism in clinical laboratory setting.
V2	Display responsible citizenship through engagement in research and service learning.

* Add a table for each track and exit Point (if any)

Hyperlink: Report on Consistency of PLOs with NQF 2020

Alignment between Program's Learning Outcomes and Graduate Attributes

Program Graduate Attributes	Program Learning Outcomes								
	K1	**K2**	**S1**	**S2**	**S3**	**S4**	**S5**	**V1**	**V2**
A. Apply **"knowledge and critical thinking"** in laboratory practice.	√	√	√	√	√	√	√		
B. Employ **"effective communication skills"** in dealing with individuals and health care providers.						√			√
C. Demonstrate **"professionalism"** in the workplace in accordance with laboratory code of ethics.			√		√	√		√	√
D. Possess **"problem-solving and management skills"** across different responsibilities in laboratory practice.						√	√		√

Alignment between Program's Graduate Attributes and University's Graduate Attribute

Alignment of University Graduate Attributes with Program Graduate Attributes		Program Graduate Attributes
1. Learning and innovation Skills.	**1.1** Creativity and innovation	**D**
	1.2 Critical Thinking and Problem Solving	**A, D**
	1.3 Collaboration and Communication Skills	**B**
2. Information Technology, Media and Technical Skills.	**2.1** Information Technology Proficiency Skills	**D**
	2.2 Efficiency and Media Coverage Skills	**NA**
	2.3 Information and Communication Skills	**B**
3. Life and Professional Skills.	**3.1** Flexibility and Adaptation Skills	**C**
	3.2 Initiative and Self-Direction Skills	**C, D**
	3.3 Social Skills and Multicultural Skills	**B**
	3.4 Skills of Productivity and Accountability	**C**
	3.5 Leadership and Responsibility Skills	**C, D**

C. Curriculum

1. Curriculum Structure

Program Structure	Required/ Elective	No. of courses	Credit Hours	Percentage
Institution Requirements	Required	10	20	12.5%
	Elective	01	02	1.2%
College Requirements	Required	06	21	13%
	Elective	None	N/A	---
Program Requirements	Required	30	78	49%
	Elective	None	N/A	---
Capstone Course/Project	Required	01	08	5%
Field Experience/ Internship	Required	12	31	19.3%
Others	None	None	None	None
Total		**60**	**160**	**100%**

* Add a table for each track (if any)

2. Program Study Plan

Level	Course Code	Course Title	Reqd/ Elec	Pre-Requisite Courses	Credit Hours	Contact Hours	Type of requirements (Institution, College or Department)
First Year: Levels 1 (Fall), 2 (Winter) and 3 (Spring)							
Level 1	370111-4	Medical Biology (1)	Required	None	4 (T3+P1)	8	College
	370112-3	Medical Chemistry (1)		None	3 (T2+P1)	6	College
	990311-2	University Study Skills		None	2	3	Institutional
	999805-2	Intensive English for Academic Purposes (1)		None	2	12	Institutional
Level 2	370211-4	Medical Biology (2)	Required	Medical Biology (1)	4 (T3+P1)	8	College
	370212-4	Medical Chemistry (2)		Medical Chemistry (1)	4 (T3+P1)	8	College
	2004111-2	Fundamentals of Islamic Culture		None	2	3	Institutional
	999806-2	Intensive English for Academic Purposes (2)		Intensive English 1	2	12	Institutional
Level 3	370213-3	Medical Physics	Required	None	3 (T2+P1)	6	College
	370113-3	Basic Medical Statistics		None	3	5	College
	990211-2	Arabic Language Skills		None	2	3	Institutional
	999817-2	English for Scientific Purpose		None	2	3	Institutional

Program Specification

Second Year: Levels 4 (Fall), 5 (Winter) and 6 (Spring)							
Level 4	373216-3	Medical Genetics	Required	None	3	4	Department
	373225-3	Laboratory Skills		None	3 (T2+P1)	6	Department
	373228-3	Basic of Medical Microbiology		None	3 (T2+P1)	6	Department
	373218-2	Professional and Communication Skills		None	2	3	Department
Level 5	373239-3	Basic of Immunology	Required	None	3 (T2+P1)	6	Department
	373219-3	Principle of Anatomy and Histology		Medical Biology (2)	3 (T2+P1)	6	Department
	999814-2	Elective English (1): **IELTS**	Elective	None	2	4	Institutional
	105115-2	History of the Kingdom	Required	None	2	3	Institutional
Level 6	373229-2	Medical Laboratory Instrumentation	Required	None	2	3	Department
	373220-2	Human Physiology		Medical Biology (2)	2	3	Department
	373226-3	Medical Biochemistry		Medical Chemistry (2)	3 (T2+P1)	6	Department
	373238-2	General and Systemic pathology		Principle of Anatomy and Histology	2	3	Department
	2004112-2	Islamic Culture (Morals and Values)		None	2	3	Institutional
Third Year: Levels 7 (Fall), 8 (Winter) and 9 (Spring)							
Level 7	373311-2	Clinical Immunology	Required	Basic of Immunology	2	3	Department
	373321-3	Diagnostic Parasitology		Basic of Medical Microbiology	3 (T2+P1)	6	Department
	373313-3	Haematology 1		Human Physiology	3 (T2+P1)	6	Department
	373324-2	Toxicology		None	2 (T1+P1)	5	Department
	2004313-2	Islamic Culture 3		None	2	3	Institutional
Level 8	373310-3	Clinical Biochemistry 1	Required	Medical Biochemistry	3 (T2+P1)	6	Department
	373312-3	Histopathological Techniques		General and Systemic Pathology	3 (T2+P1)	6	Department
	373323-3	Haematology 2		Haematology 1	3 (T2+P1)	6	Department
	2004414-2	Islamic Culture 4		None	2	3	Institutional

Level	Code	Course		Prerequisite	Units	Hours	Offered by
Level 9	373314-3	Diagnostic Molecular Biology	Required	Medical Genetics	3 (T2+P1)	6	Department
	373322-3	Clinical Bacteriology		Basic of Medical Microbiology	3 (T2+P1)	6	Department
	373320-3	Clinical Biochemistry 2		Clinical Biochemistry 1	3 (T2+P1)	6	Department
	373326-2	Cytopathology		Histopathological Techniques	2 (T1+P1)	5	Department
Forth Year: Levels 10 (Fall), 11 (Winter) and 12 (Spring)						
Level 10	373410-3	Clinical Virology and Mycology	Required	Basic of Medical Microbiology	3 (T2+P1)	6	Department
	373423-2	Laboratory Management and Quality Control		None	2	3	Department
	373414-2	Research in Health Science		None	2	3	Department
	373413-3	Transfusion and Transplantation Sciences		Clinical Immunology	3 (T2+P1)	6	Department
Level 11	373415-2	Assisted Reproductive Techniques	Required	None	2 (T1+P1)	5	Department
	373411-2	Coagulation and Haemostasis		Haematology 2	2 (T1+P1)	5	Department
	373412-3	Clinical Practice		- Clinical Biochemistry 1 - Clinical Bacteriology - Haematology 2 - Cytopathology	3 (Practical)	9	Department
	373422-4	Student's Project		Clinical Practice	4 (T3+P1)	8	Department
Level 12	373420-3	Integrated Laboratory Sciences	Required	None	3	5	Department
	373421-2	Infection control in Hospital		- Clinical Bacteriology - Clinical Virology and Mycology	2	3	Department
	373422-4	Student's Project		Clinical Practice	4 (T3+P1)	8	Department
Fifth Year: Levels 13 and 14 (CLINICAL INTERNSHIP)						
Level 13		Clinical Internship (1)	Required	Passed all previous semesters	10	30	Department
Level 14		Clinical Internship (2)	Required	Passed all previous semesters	10	30	Department
Level 15		Clinical Internship (3)	Required	Passed all previous semesters	11	33	Department

* Include additional levels if needed
** Add a table for each track (if any)
*** T represents Theory and P represents Practical sessions.

3. Course Specifications

Insert hyperlink for all course specifications using NCAAA template

Course Specifications 2020 NCAAA Template

4. Program learning Outcomes Mapping Matrix

Align the program learning outcomes with program courses, according to the following desired levels of performance (**I = Introduced   P = Practiced M = Mastered**)

Course code & No.	Program Learning Outcomes									
	Knowledge and Understanding		Skills					Values	
	K1	K2	S1	S2	S3	S4	S5	V1	V2
First Year/ Level-1 (Fall)									
Medical Biology (1) 370111-4	I		I						
Medical Chemistry (1) 370112-3	I	I	I						
First Year/ Level-2 (Winter)									
Medical Biology (2) 370211-4	I		I						
Medical Chemistry (2) 370212-4	I	I		I					
First Year/ Level-3 (Spring)									
Medical Physics 370213-3	I				I				
Basic Medical Statistics 370113-3	I			I				I	
Second Year/ Level-4 (Fall)									
Medical Genetics 373216-3	I	I		I		I			
Laboratory Skills 373225-3	I	I	I	I	I				
Basic of Medical Microbiology 373228-3	I	I	I						
Professional and Communication Skills 373218-2							I	I	I
Second Year/ Level-5 (Winter)									
Basic of Immunology 373239-3	I	I	I	I				I	
Principles of Anatomy and Histology 373219-3	P			I		I		P	
Second Year/ Level-6 (Spring)									
General and Systemic Pathology 373238-2	p			P		P			I
Medical Biochemistry 373226-3	P	I	P	I				P	
Medical Laboratory Instrumentation 373229-2		I			I		I		
Human Physiology 373220-2	P			I		I			

Course code & No.	Program Learning Outcomes								
	Knowledge and Understanding		Skills					Values	
	K1	K2	S1	S2	S3	S4	S5	V1	V2
Third Year/ Level-7 (Fall)									
Hematology 1 373313-3	P	I	P	I		P		I	
Diagnostic Parasitology 373321-3	P	P	P	I				P	P
Clinical Immunology 373311-2	P	P		P					
Toxicology 373324-2	I	I	P	I					P
Third Year/ Level-8 (Winter)									
Haematology 2 373323-3	P	P	P	P		P		P	
Clinical Biochemistry 1 373310-3	P	P	P	P		P		P	
Histopathological Techniques 373312-3		P	P	P	P			P	
Third Year/ Level-9 (Spring)									
Cytopathology 373326-2	P	P	P	P				P	
Clinical Biochemistry 2 373320-3		P	P	P				P	P
Clinical Bacteriology 373322-3	P	P	I	I					
Diagnostic Molecular Biology 373314-3	I		I	I					I
Fourth Year/ Level-10 (Fall)									
Clinical Virology and Mycology 373410-3	P	P	P	P					P
Transfusion and Transplantation Sciences 373413-3	P	P		P	P			P	P
Research in Health Sciences 373414-2						P	I	P	
Laboratory Management and Quality Control 373423-2						P	P	P	
Fourth Year/ Level-11 (Winter)									
Assisted Reproductive Techniques 373415-2	P	P		P		P		P	P
Coagulation and Haemostasis 373411-2	P	P	P	P				P	
Clinical Practice 373412-3		M	M	M	M			M	M
Student's Project 373422-8		P	P			P	P	P	
Fourth Year/ Level-12 (Spring)									
Integrated Laboratory Sciences 373420-3		M		M		M	M	M	
Infection Control in Hospitals 373421-2	P					M		P	P
Student's Project 373422-8		M	M			M	M	M	

Course code & No.	Program Learning Outcomes									
	Knowledge and Understanding		Skills						Values	
	K1	K2	S1	S2	S3	S4	S5		V1	V2
Fifth Year/ Level-13										
Clinical Internship (1)		M	M	M	M	M			M	M
Fifth Year/ Level-14										
Clinical Internship (2)		M	M	M	M	M			M	M
Fifth Year/ Level-15										
Clinical Internship (3)		M	M	M	M	M			M	M

* Add a table for each track (if any)

5. Teaching and learning strategies to achieve program learning outcomes
Describe policies, teaching and learning strategies, learning experience, and learning activities, including curricular and extra-curricular activities, to achieve the program learning outcomes.

The bachelor program of clinical laboratory sciences department focusses on teaching and learning strategies that are student-centred and encourage active learning. The program's teaching methodology and learning strategies are coherent with Taif Universities' policies of teaching, learning and assessment. The program follows Universities' guidelines in this context and ensures that students achieve intended learning outcome through variety of courses that constitute the program's curriculum framework. In order to accomplish successful achievement of program learning outcomes, it is ensured that for each course, there is an alignment between PLOs, teaching and learning strategies and assessment specific to each course. This is taken up as a serious consideration while designing course specifications.

Teaching and learning strategies and assessment methods in the CLS program are applied according to its nature, enhance the ability to conduct research, and ensure students' acquisition of higher cognitive thinking and self-learning skills. To achieve the program learning outcomes, number of teaching strategies are used as following:

- **Theoretical lectures** are used to fulfill the objectives and learning outcomes for each course through comprehensive understanding of topics in each course.
- **Practical sessions** are used to demonstrate and apply the clinical laboratory skills and knowledge.
- **Group discussion** are applied to improve the communication and interpersonal skills.

- **Problem-based learning:** The students develop creative thinking and decision-making skills through solving case studies and other works.
- **Research Project:** Carry out relevant researches in order to foster educational and scientific abilities.
- **Service Learning:** Co-curricular activities employed for achieving program learning outcomes such as journal club, other scientific activities and community services.

Students at all levels are frequently involved in extracurricular activities and events that are carried out under the patronage of the college at a higher level and the program itself. These enhance the academic performance by giving an impetus to the overall goals and objectives of the program and act as catalysts in diversifying their learning experience. The aim of these activities is to develop novel abilities among students that can top-up their graduate attributes. It will also enhance their social and inter-personal skills as well as promote sense of cultural harmony and values among them.

- Taif University guide for learning and teaching strategies

The table below summarizes the teaching strategies used for assessment of program learning outcomes.

Alignment between Program Learning Outcomes and Teaching Strategies

Learning Domain	PLOs	Teaching Strategies					
		Lectures	Practical sessions	Problem Based Learning	Group Discussions	Research Project	Service Learning
Knowledge & Understanding	Describe cellular and molecular mechanisms underlying physiological processes and anomalies related to disease states.	√					
	Recognize principles applied for basic/special clinical laboratory settings including specimen suitability, instrumentation, testing and reporting.	√	√				
Skills	Perform laboratory testing process in a safe and proficient manner.		√				
	Interpret laboratory data and correlate abnormal results with clinical conditions.	√	√	√			

	Evaluate quality assurance measures in clinical laboratory through proper procedures.	√	√				
	Employ effective communication, problem-solving and management strategies inrelation to clinical laboratory.			√	√		
	Practice basic clinical laboratory research and data analysis.	√				√	
Values	Demonstrate work ethic and professionalism in clinical laboratory setting.		√		√		
	Display responsible citizenship by engagement in research and service learning.						√

6. Assessment Methods for program learning outcomes.
Describe assessment methods (Direct and Indirect) that can be used to measure achievement of program learning outcomes in every domain of learning.

The CLS program uses a wide range of assessment methods tailored for effective indication of students learning. The various assessment methods apply to evaluate progressing skills as students move from one level of study to a higher level.

Direct methods
The direct methods used for assessing of program learning outcomes are as follows:

- **Midterm and final written exams:** students are assessed in the middle of the semester through midterm exams and at the end of term through final exams.

- **Practical exams:** students are assessed at the end of term through final practical exams.

- **Laboratory report:** in each laboratory session, the students are required to submit a lab report to evaluate their communication and psychomotor skills.

- **Assignments:** different ways are used to assess the students' knowledge such as written and black board assignments in order to develop reasoning and thinking abilities.

- **Assessments of scientific and research activities:** are applied through oral and poster presentations, as well as research proposal and thesis assessments and are evaluated via designed rubric forms.

- **Objectives-structured and practical examinations (OSPE):** are used as an objective tool in examining the students' practical skills.

The table below summarizes the direct assessment methods used for assessment of program learning outcomes

Alignment between Program Learning Outcomes and Assessment Methods

Learning Domain	PLOs	Written Exams	Practical Exams	Lab Reports	Assignments	OSPE	Scientific Activities/ Other Activities
Knowledge & Understanding	Describe cellular and molecular mechanisms underlying physiological processes and anomalies related to disease states.	√			√		
	Recognize principles applied for basic/special clinical laboratory settings including specimen suitability, instrumentation, testing and reporting.	√	√	√			
Skills	Perform laboratory testing process in a safe and proficient manner.		√	√			
	Interpret laboratory data and correlate abnormal results with clinical conditions.	√				√	
	Evaluate quality assurance measures in clinical laboratory through proper procedures.	√	√				
	Employ effective communication, problem-solving and management strategies in relation to clinical laboratory.	√					√
	Practice basic clinical laboratory research and data analysis.						√
Values	Demonstrate work ethic and professionalism in clinical laboratory setting.		√				√
	Display responsible citizenship by engagement in research and service learning.						√

Indirect methods:

The indirect methods used for assessing of program learning outcomes are as follows:

- Course evaluation survey (CES).
- Program evaluation survey (PES).
- Field training survey,
- Alumni survey.
- Employer survey.

Alignment between learning domains, teaching strategies and assessment methods

NQF Learning Domains		Teaching Strategies	Assessment Methods
KNOWLEDGE			
Describe cellular and molecular mechanisms underlying physiological processes and anomalies related to disease states.	K1	• Lectures	• Written Exams (MCQs) • Assignments
Recognize principles applied for basic/special clinical laboratory settings including specimen suitability, instrumentation, testing and reporting.	K2	• Lectures • Practical Sessions	• Written Exams (MCQs) • Practical Exams • Lab Reports
SKILLS			
Perform laboratory testing process in a safe and proficient manner.	S1	• Practical Sessions	• Practical Exams • Lab Reports
Interpret laboratory data and correlate abnormal results with clinical conditions.	S2	• Lectures • Practical Sessions • Problem Based Learning	• Written Exams (MCQs) • Objective Structured Practical Examination (OSPE)
Evaluate quality assurance measures in clinical laboratory through proper procedures.	S3	• Lectures • Practical Sessions	• Written Exams (MCQs) • Practical Exams
Employ effective communication, problem-solving and management strategies in relation to clinical laboratory.	S4	• Problem-Based Learning • Group Discussion	• Written Exams (MCQs) • Scientific Activities Assessed Via Rubric
Practice basic clinical laboratory research and data analysis.	S5	• Lectures • Research Project	• Scientific Activities Assessed Via Rubric
VALUES			
Demonstrate work ethics and professionalism in clinical laboratory setting.	V1	• Practical Sessions • Group Discussion	• Practical Exams • Activities Assessed Via Rubric
Display responsible citizenship through engagement in research and service learning.	V2	• Service Learning	• Activities Assessed Via Rubric

D. Student Admission and Support:

1. Student Admission Requirements

The students applying for admission to the program of Clinical Laboratory Sciences are required to submit the following documents;

- 30% of the total requirement: High school certificate, with a minimum percentage, as outlined in the university's admission guidelines.
- 30% of the total requirement: General aptitude test (GAT).
- 40% of the total requirement: Scholastic achievement admission test (SAAT)
- Other eligibility conditions
  - The duration of obtaining the secondary school certificate shall not exceed five years.
  - Passing the medical examination
  - Providing code of conduct certificate.

Hyperlink

- Admitted Students Booklet
- Executive Rules at TU
- Students Comprehensive Guide at TU
- Admission Procedure
- Admissions handbook of TU
- Student Admission Policies and Procedures Guide
- Program Guide
- Students' Online Registration
- Admission Conditions

2. Guidance and Orientation Programs for New Students

University Orientation Program

At the beginning of each academic year, the University provides comprehensive introductory day for newcomers. The orientation day at the University which includes all the colleges and the constituting programs mainly comprises of introducing new students to the central library, student services, student guidebook and academic advising handbook, instructions from deanship of admissions and registration.

- Taif University conducts an orientation week at the beginning of each academic year for new students to introduce them to the University's culture, regulations, programs, facilities and services, students' rights and responsibilities and TU ethical code.
- The orientation program includes familiarizing students with the services provided to them, such as providing a vision of the mechanism of admission and registration, introducing students to their rights and obligations and any related matter in how to advance their academic progression.
- Presentations are conducted to;
  - (1) Familiarize students on how to use Central Library and the facilities available there for learning.
  - (2) Introduce a range of available activities for students.
  - (3) Offer academic support and academic counselling services.

Department Orientation Program

The department of Clinical Laboratory Sciences provides comprehensive orientation day for freshman in the beginning of new academic year. This is usually done after students are oriented with broader perspectives through an insight given during University's introduction. The program ensures their full understanding of the types of services, facilities available to them, their rights and duties, code of conduct, grievances, complaints, and other disciplinary procedures.

The program of orientation delivers information and instructions about;

- Overall program information
- Learning resources such as the library, and the digital knowledge databases.
- Program teaching strategies.
- Program assessment methods.
- Studies and exam regulations.
- Safety rules and regulations
- Students' academic counselling
- Participating in community services and voluntary works
- Participating in students' activities
- Internship regulation.
- Job opportunities.
- The importance of the research.

Hyperlink

- Procedural Manual of Student Affairs Deanship
- Academic Advising Student Handbook
- Arrangement of Student Orientation Day at University's Level
- Cultural and Social Activities Information Meetings-Reports Samples
- Deanship of Student Affairs Handbook
- Guide 1_Using Online Academic System
- Library Services Guidebook-Central Library
- Student Comprehensive Handbook

3. Student Counseling Services
(academic, career, psychological and social)

At CLS department, students are provided with effective academic, professional, psychological, and social guidance, and counseling services through qualified and sufficient staff. The student advising committee in the department functions according to the regulations of the Academic Advising Administration and Deanship of Students' Affairs at Taif University, guidance and counselling services in the Department of Clinical Laboratory Sciences are employed in a way that caters for the psychological, social, and academic needs of the students.

Counselling Services:

- The department has a committee for students' academic counselling. It works under the supervision of Students' Advisory Office, which is administratively and organizationally affiliated with the University's Vice Presidency for Academic Affairs & Development.

- The office is concerned with providing student support and academic, psychological and professional advising.
- At the beginning of each academic semester, students are distributed to academic advisors in the department. The academic advisors work as consultants; to know what their students face and to help them overcome their educational, psychological and social hurdles.
- The students are being informed about the faculty office hours for their academic advisors.
- The academic advisors are responsible for regular follow up for the student results, in order to discover the low achievers and to guide them in solving their educational difficulties or changing their study program. Additionally, TU recognize the high achievers (two successive semesters with GPA equal or higher than 3.5) and reward them with Outstanding Achievement Award.
- In order to allow students to express their demands, problems and opinions, a Student Advisory Committee has been established to provide good interactions between program leaders and students.

Academic advising services:
- Deleting or adding courses and determining which optional courses are best for students,
- Modifying schedules and offering advice concerning academic support.
- Solving students' issues with their instructors,
- Transferring students,
- Discovering their talent,
- Advising students on issues related to their failure and working towards offering opportunities for their success.

Hyperlinks
(Psychological)
- https://www.tu.edu.sa/En/University-Guidance-/238/Pages/21366/Unit-of-guidance-and-psychological-counseling
(Academic)
- https://www.tu.edu.sa/En/University-Guidance-/238/Pages/21394/Unit-of-academic-Counseling-
- Academic Advising Student Handbook
- Low Results Achiever Form
- Outstanding Achievement Award for Students
- Students Advisory Committee
- Academic Advising Faculty Handbook
- Academic Advising Comprehensive Handbook

4. Special Support
(low achievers, disabled, gifted and talented)

The CLS program applies mechanisms to identify gifted, creative, talented, and underachieving students in the program, and appropriate plans are available to care for, motivate, and support each of them.
Support plan for special-need students:

There is a plan for academic guidance unit which is discussed at the beginning of each semester. This plan considers all types of students ranging from academically competent students to talented, creative and low-achieving students. The plan discusses the honours and rewards to be given to excellent students based on certain criteria and also entails the tasks of academic supervisors in following up with underachieving students.

The Deanship of Admission and Registration in collaboration with the IT department has developed an online system to exhibit the GPA range based on individual students' academic competency. The system divides students' GPAs into categories that are color coded to create a competitive atmosphere that encourages students to do their very best.

Each category represents five domains based on students' cumulative GPA and the minimum requirement for graduation as follows: Distinction, excellence, diligence, warning and failure.

- Distinction domain for students with 3.75 to 4 GPA
- Excellence domain for students with 3.50 to 3.74 GPA
- Diligence domain for students with 2.75 to 3.49 GPA
- Warning domain for students with 2.74 to the minimum requirement for graduation.
- Failure domain for students whose performance is below the set GPA for graduation.

The student's academic counselling committee in the department determines the domain of each student and shows the requirement for improving student's performance, based on his/her cumulative GPA. The students with problems that need immediate attention, the cases are forwarded to the Head of the Student Advisory Unit at CAMS for further follow-up. There are specific templates for follow-up of failing students, students who are struggling and gifted students.

The academic advisor provides their executive plan on how to:
- Enhance the level of low achiever students by facilitating their meetings with respective course instructors. They also help the struggling students with their exams preparation and time management.
- Honor and reward excellent students based on certain criteria of their achievement.
- Motivate the distinguished students for further enhancements.

The department of Clinical Laboratory Sciences works in cooperation with the Deanship of Student Affairs for communications regarding distinguished students. This gives a chance to the excellent students to share and participate in all academic and research developments. It also advises and directs them to the available job opportunities and/or appropriate postgraduate programs. TU has also developed mechanisms to identify and discover talented and creative students through the extracurricular activities offered by the Deanship of Students Affairs under the supervision of a team specialized in discovering talented people and with cooperation with professors of courses and activities supervisors. In the Academic Advising Comprehensive Handbook, the role of academic advisors is stated to include discovering talented and creative students with procedures that help the academic advisors to categorize students according to their literary, scientific and technical needs and abilities.

Hyperlinks
- Professional Development and Career Support at TU

- [Special Support at TU](#)
- [Special Needs Students at TU (Page 36)](#)
- [CAMS academic guidance unit for gifted, talented and underachievers](#)
- [A Handbook to the Services of Special Needs Students](#)
- [Proposal of the Indicative Ranges of Students Performance](#)
- [Templates_Student Support](#)
- [Academic Advising Faculty Handbook](#)

E. Teaching and Administrative Staff
1. Needed Teaching and Administrative Staff

Academic Rank	Specialty		Special Requirements / Skills (if any)	Required		
	General	Specific		M	F	T
Professors	Microbiology	• Infection control • Clinical Bacteriology • Clinical Virology & Mycology • Medical Microbiology		0/1	0/1	1
	Biochemistry	• Medical Biochemistry • Clinical Biochemistry • Toxicology		0/1	0/1	1
	Immunology	• Basic Immunology • Clinical Immunology		0/1	0/1	1
Associate Professors	Parasitology	• Parasitology		1	1	2
	Microbiology	• Infection control • Clinical Bacteriology • Clinical virology & mycology • Medical microbiology		1	1	2
	Physiology	• Human Physiology		1	1	2
	Hematology	• Coagulation & hemostasis • Transfusion & transplantation Sciences		1	1	2
	Pathology	• Pathology • Cytopathology		1	1	2
	Reproductive techniques	• Assistive Reproductive techniques		1	1	2
Assistant Professors	Microbiology	• Clinical Bacteriology		1	1	2
	Laboratory sciences	• Laboratory sciences		1	1	2
Lecturers	Medical Physics	• Medical Physics		1	1	2
	Biochemistry	• Medical Biochemistry • Clinical Biochemistry		2	2	4
	Laboratory sciences	• Laboratory sciences		1	1	2
Teaching Assistants	N/A	N/A		0	0	0

Technicians and Laboratory Assistants	Laboratory Science	Laboratory Science		3	4	7
Administrative and Supportive Staff	General Administration	Administration		3	3	6
Others (specify)	N/A	N/A		0	0	0

2. Professional Development

2.1 Orientation of New Teaching Staff
Describe briefly the process used for orientation of new, visiting and part-time teaching staff

The CLS program provides appropriate orientation for new teaching staff to ensure their understanding of the nature of the program, their rights, tasks, responsibilities, and workload. The orientation program begins at the institutional level wherein Taif University conducts an introductory program in the beginning of each academic year for new faculty members joining the programs in different colleges. The program is organized by the Deanship of University Development in coordination with the deanships, centres and other administrative departments related to the university. The purpose of this program is to acquaint members with the University's academic and administrative system including academics, learning resources, sports facility, medical facility, university's deanships etc.

The orientation is done at two levels. First a general orientation program at University level and then the second specific orientation at the level of department is held.

University Orientation Program

At the beginning of each academic year, the Deanship of University Development organizes a three-day orientation program for all new faculty members. The program is organized by the Deanship of University Development in coordination with other relevant deanships, centers, and administrative departments in the University. The program's schedule includes the following:

- Facilitate the new faculty adjustment to the University and local community.
- Build enthusiasm for, and identification with, the University.
- Giving a general overview of the University, its history, mission, vision, values, culture, strategic goals, and major developmental projects.
- Informing new faculty members of their rights, obligations and clarifying the University's expectations of faculty and their related roles.
- Providing new faculty members an opportunity to network with their peers and leaders and promoting collegiality and communal spirit.
- Informing new faculty members about the services provided to them including health care and administrative support.
- Giving information about learning resources such as the library, and the digital knowledge databases.
- Informing new faculty members about research opportunities, including existing research teams.
- Training the new faculty members on effective teaching skills, student assessment skills, classroom management, academic advising and use of the University's learning management system.

Program Specification

Department orientation program:

The department provides orientation for new faculty to ensure their understanding of the nature of the program, their rights, obligations, tasks, responsibilities and workload. The department orientation program includes giving instructions and information about:

- Familiarize the faculty member with the mission and objectives of the college and its affiliate program.
- College and department regulations regarding academic and administrative affairs.
- Familiarize the faculty member with program's infrastructure such as laboratories, safety rules and regulations as they apply.
- Identify the facilities and services provided by the college and the program.
- Encourage the faculty member's familiarity with the regulations of the university, the college and its program.
- Assist the new faculty member in practical and psychological adjustment.
- Develop the skills of teaching staff in teaching, learning and managing the educational process, using blackboard learning system and other electronic resources
- Let the faculty member know of his/her rights and duties.
- Acquainting the faculty member with accreditation process and documentation required.
- Realizing the significance of community partnerships, community services and voluntary work.
- Orienting faculty members with exam regulations and maintaining exam quality in order to assess learning outcomes.
- Acquainting them with academic advising system at the program level.

The current year's (AY 2021-2022) orientation program was conducted on January 26 2022 and all new members were informed about the plan in advance. This orientation day also included faculty members who could not attend on-site orientation due to COVID lockdown.

Hyperlinks
- [New Faculty Orientation at Program Level](#)
- [CAMS New Faculty Orientation Acknowledgement Booklet](#)
- [Acknowledgement Sheet of New Faculty Members 2022](#)
- [New Faculty Members Satisfaction regarding Program Orientation](#)

2.2 Professional Development for Teaching Staff
Describe briefly the plan and arrangements for academic and professional development of teaching staff (e.g., teaching & learning strategies, learning outcomes assessment, professional development, etc.)

Taif University's Deanship of University Development under the Vice-Presidency of Academic affairs has taken the initiative of improving faculty and other staff members

academic, scientific and other professional skills. In an attempt to improve the capabilities of faculty members, the University Vice Presidency for Academic Affairs and Development established the University's Professional Development Agency to be responsible for professional and academic development programs. In order to develop the skills of its employees and in line with the Kingdom's directions and to implement the Kingdom's Vision 2030, Taif University has launched an electronic skills platform that enables its employees to develop their scientific and professional skills through an intelligent electronic environment that stimulates skills and apply the modern education strategies. https://maharat.tu.edu.sa/.

The University's Professional Development Agency has drawn up the implementation plan. This plan includes: Four long-term goals as follows:

- The first long-term goal: the development of professional development strategies in the faculties, deanships and departments of the university.
- The second long-term goal: professional development of university staff and employees.
- The third long-term goal: partnership with parties outside the university to provide training programs for university staff and employees.
- The fourth long-term objective: A plan for dissemination, advertising and awareness of the work and activities of the Agency for Professional Development.

University professional development for teaching staff

- The vice deanship of professional development at Taif University sets a plan for developing the professional skills of staff members including workshops and courses at the beginning of each academic semester and announces these on the website.

Department professional development for teaching staff;

- The department of Clinical Laboratory Sciences provides professional and academic development programs in accordance with a plan that meets their needs and contributes to the development of their performance.
- At the end of each academic year, the department assesses and identifies the needed professional skills to improve the academic staff's performance and send their requirement of courses and workshops for accreditation and development units of College of Applied Medical sciences.
- The College of Applied Medical Sciences has nominated a number of faculty members to attend a number of courses in the National Center for Academic Accreditation and Assessment (NCAAA).

Hyperlinks
- Maharat Platform Developmental Activities of CLS Program Members
- Professional Development Agency Executive Plan
- Approval of the Professional Development Center in the University Development Deanship

F. Learning Resources, Facilities, and Equipment

1. Learning Resources.

Mechanism for providing and quality assurance of learning resources (textbooks, references and other resource materials, including electronic and web-based resources, etc.)

The Deanship of Library Affairs is responsible for the management and provision of learning resources to all students and staff at the University.

- The College of Applied Medical Sciences Library and Central Library are run and managed by the Library Affairs Deanship. These offer students and staff access to learning resources, including textbooks and other sources, based on their specific needs.

- All students and staff can use the Central Library daily from 8 am to 8 pm and the college library from 8 am to 2:30 pm. The library staff are available at these times to provide students and staff with necessary assistance and support needed.

- The Central and the College libraries provide enough copies of all books, have regulations governing the use of learning resources, and ensure their availability when needed.

- The Library Affairs Deanship requests the departmental needs of books and other learning resources on an annual basis, in order to update and ensure the quality.

- The Library Affairs Deanship has designed a form for books suggestion, where students and staff can fill in the form and submit it electronically or in hard copy. In addition, the Deanship has also formed a committee for books procurement, with members of each academic college, to ensure their specific academic needs.

- The Library services have a robust electronic search system (Sirsi Dynix Symphony) which can be used by all its beneficiaries, to search the learning resources. The Library database includes all its hard-copy learning resources, such as books and theses. In addition, all users of the Libraries, including the department's students and faculty staff, have full access to the Saudi Digital Library, which contains a large number of online databases giving access to numerous books, conference proceedings, theses and scholarlyjournals. All staff and faculty can access the Saudi Digital Library from inside or outside the university.

- The Assessment and Evaluation Centre at the University requests all students and facultyto fill in an online survey at the end of each semester, to evaluate the library services, facilities and learning resources of Central and College Libraries. The survey results are then send to the Library Affairs Deanship, which works on its improvement plan.

Hyperlinks

- https://sdl.edu.sa/SDLPortal/ar/Publishers.aspx
- PS Central Library Services Booklet
- PS Internal Directives of the Deanship of Library Affairs
- PS Memorandum of Understanding Between TU and Pearson Educational Company
- PS Strategic Plan of the Deanship of Library Affairs
- PS Subscription Agreement to Saudi Digital Library
- TU Library Procedural Guide

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2. Facilities and Equipment
(Library, laboratories, medical facilities, classrooms, etc.).

Classrooms: The department of Clinical Laboratory Sciences shares 31 college classrooms that are equipped with data show projectors, white boards and chairs. Classrooms are well-lit, ventilated and can accommodate approximately forty students at one time. Administration of academic support of the University has set barcode signs on each classroom to scan and send support if any defect was encountered.

Laboratories: The department of Clinical Laboratory Sciences has 9 laboratories equipped with the required instruments, gadgets, chemicals, kits and other material needed for conducting practical sessions. The Laboratories are suitable for the types of courses taught in the program and are sufficient to conduct scientific research studies. The Departmental Laboratory and Safety Committee applies appropriate mechanisms to maintain and update lab facilities.

Laboratory Instrumentations are annually reviewed for maintenance and for purchasing new developed instruments through the Departmental Laboratory and Safety committee.

Hyperlinks
- Labs and Classrooms
- Lab Equipment
- Lab Chemicals
- Instruments and Chemicals Purchase
- Instrumental Maintenance.
- Final Instrumental Maintenance Report
- Laboratory and Safety Committee
- Model for Equipment and Chemicals Purchasing Specifications and Forms

Library: There are two libraries available for students and staff; College of Applied Medical Sciences Library and Central Library in the main campus. The department implements effective procedures for the management of resources and reference materials needed to support teaching and learning processes. The Library has a sufficient number of resources that are easily accessible and appropriate to the needs of the program and number of students. In addition, specialized electronic resources, appropriate databases and electronic systems are made available. This allows the beneficiaries to access the information, research

materials, and scientific journals from inside or outside the institution.

Hyperlink

- [TU Library Guidelines](#)
- [Deanship of Libraries](#)

Medical Facilities: TU provides medical services to all students and faculty members through The Medical Services Center (MSC). The MSC has two branches located at Taif University's main campus in Alhawaya. In addition to providing educational, treatment and training services to University's students, it also provide them treatments through general and specialized clinics. The Clinics are equipped with the latest equipment and medical supplies. Furthermore, they are supervised by specialized medical and technical staff, in accordance with the highest international standards and rules of occupational safety.

3. Arrangements to Maintain a Healthy and Safe Environment (According to the nature of the program)

The CLS program under the auspices of Taif University, follows the regulations and procedures specified by the MOE for Security and Safety. The safety requirements meant to enhance the quality of the facilities within the University campuses and meet health and safety related policies and regulations are provided the University.

The Laboratories and safety committee at CAMS and that encompasses CLS program is responsible for ensuring health and general professional safety in the department. The safety procedures are applied to the facilities, equipment, educational and research activities that are carried out in the department.

- The committee works hand in hand with Operation and Maintenance, Professional Safetyand Health Departments.

- In order to provide a healthy, safe, sustainable and supportive environment, the Operation and Maintenance Department of the university has made contract with a company responsible for daily cleaning of offices, classrooms, laboratories, corridors, stairs, restrooms, and college courtyards. The company also takes care of waste disposal, gardening and landscaping. College of Applied Medical Sciences premises is designated as smoke-free zone and fire-alarms have been installed appropriately and drills areconducted periodically.

- Periodic maintenance is undertaken for electric power sources, electric connections, water sources, lighting, cameras, sewage, potential sources of infection, pollution and other processes.

- College of Applied Medical Sciences in cooperation with Professional Safety and Health Department conducts several training courses about safety for academic staff and technician. Use of personal protective equipment, such as gloves, face masks, eye-goggles and lab coats are mandatory while working with hazardous materials.

- Also, the Laboratories and safety committee ensure the existence of safety instructions (using plates on walls), marking of exit doors, and appropriate guidance to assembly points in the event of emergency evacuations.

- The University has signed a contract with a specialized company to dispose of hazardous waste efficiently and effectively.

Hyperlinks
- [Directory of Polices and Guidelines Followed in the Lab](#)
- [Lab safety daily Report after use](#)
- [Professional Safety and Health Department Handbook](#)
- [Handbook for security and safety](#)
- [Incidents Processes and Security and Safety Procedures](#)
- [Cleaning Contract for Buildings and Facilities of the University and its Branches](#)
- [Safety Equipment and Supplies Procurement Contract](#)
- [Safe Handling Instructions](#)
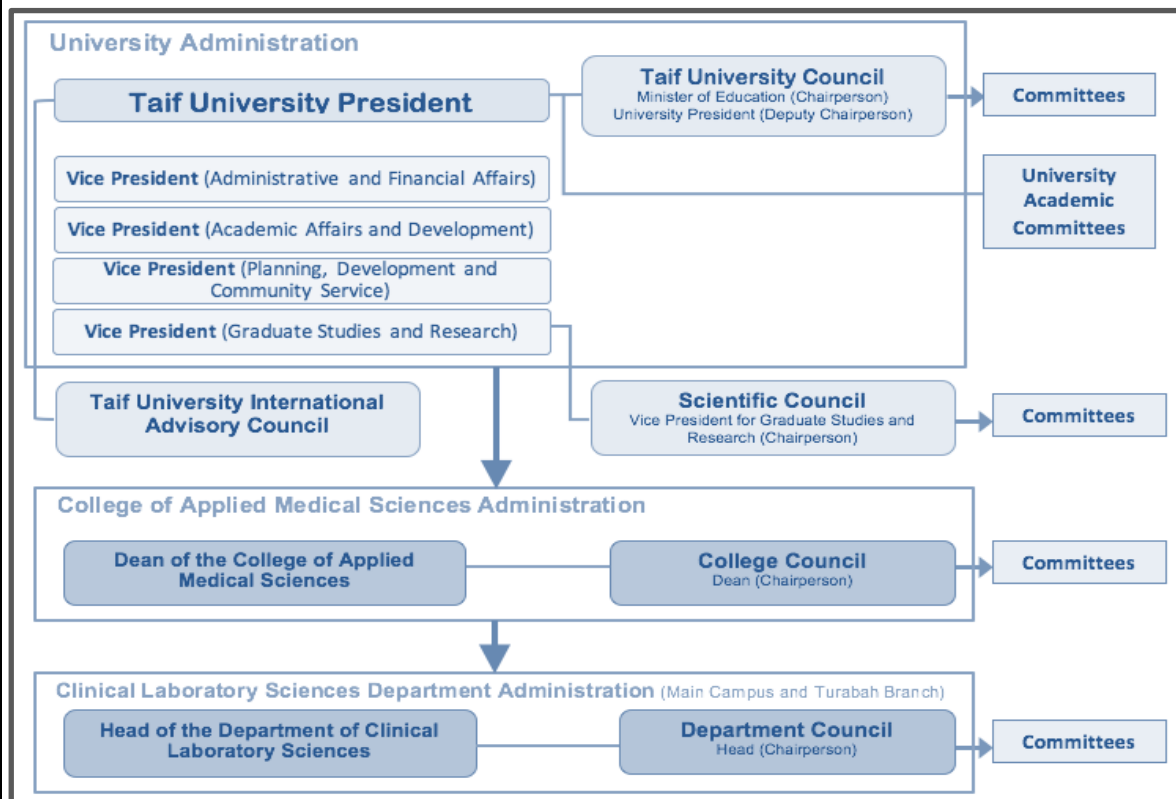- [Safety Equipment and Supplies Procurement Contract](#)

G. Program Management and Regulations

1. Program Management
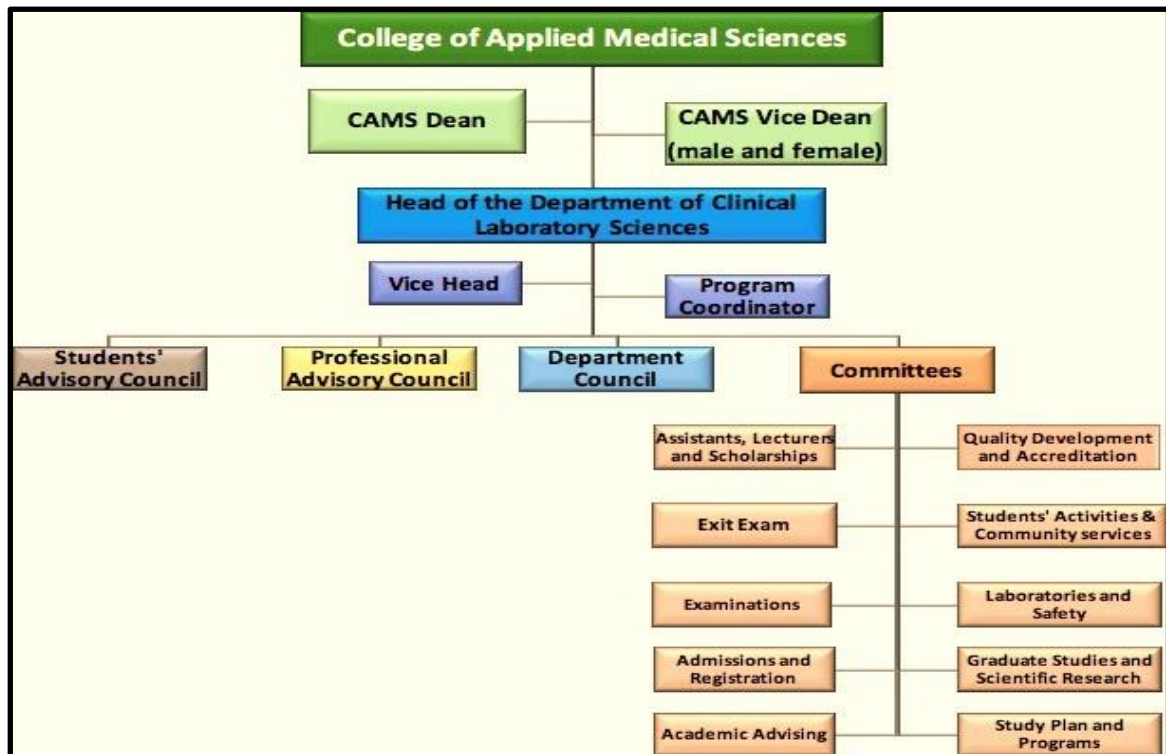**1.1 Program Structure**
(including boards, councils, units, committees, etc.)

Governing structure of CLS program in coordination with CAMS and TU

Program Management in Relation to CAMS

Decision Making Process in a CLS Department Council

College of Applied Medical Sciences

CAMS Dean — CAMS Vice Dean (male and female)

Head of the Department of Clinical Laboratory Sciences

Vice Head — Program Coordinator

Students' Advisory Council — Professional Advisory Council — Department Council — Committees

Committees:
- Assistants, Lecturers and Scholarships
- Quality Development and Accreditation
- Exit Exam
- Students' Activities & Community services
- Examinations
- Laboratories and Safety
- Admissions and Registration
- Graduate Studies and Scientific Research
- Academic Advising
- Study Plan and Programs

Administrative Structure of Clinical Laboratory Sciences Department

1.2 Stakeholders Involvement

Describe the representation and involvement of stakeholders in the program planning and development. (students, professional bodies, scientific societies, alumni, employers, etc.)
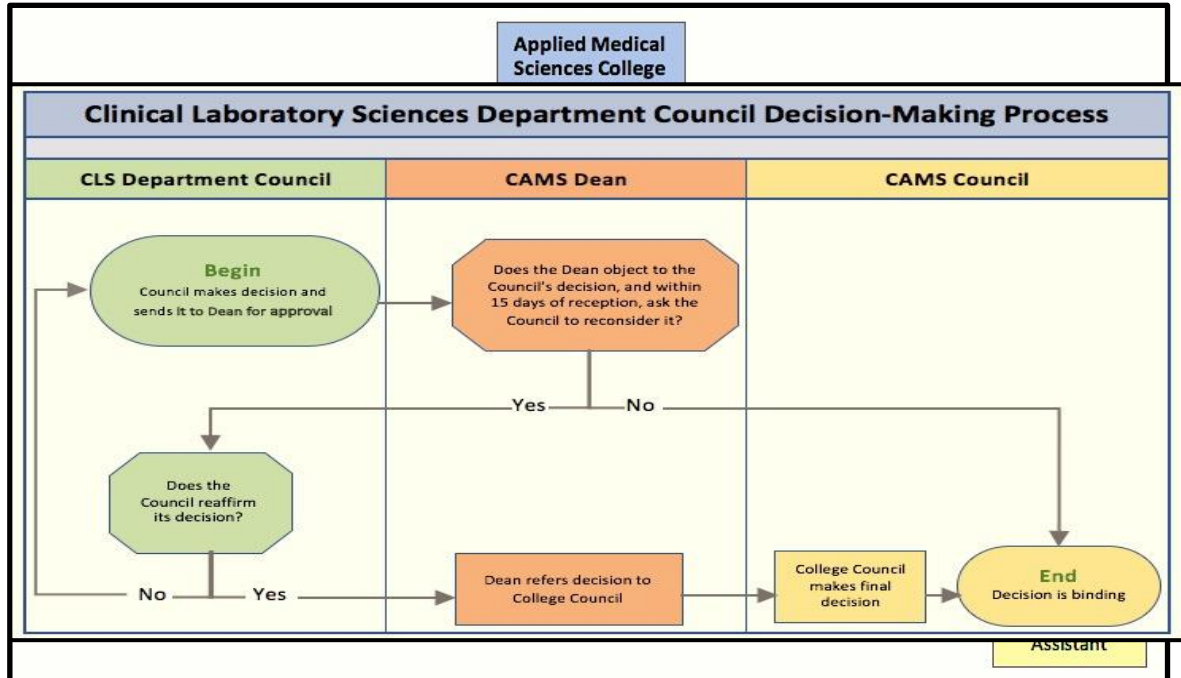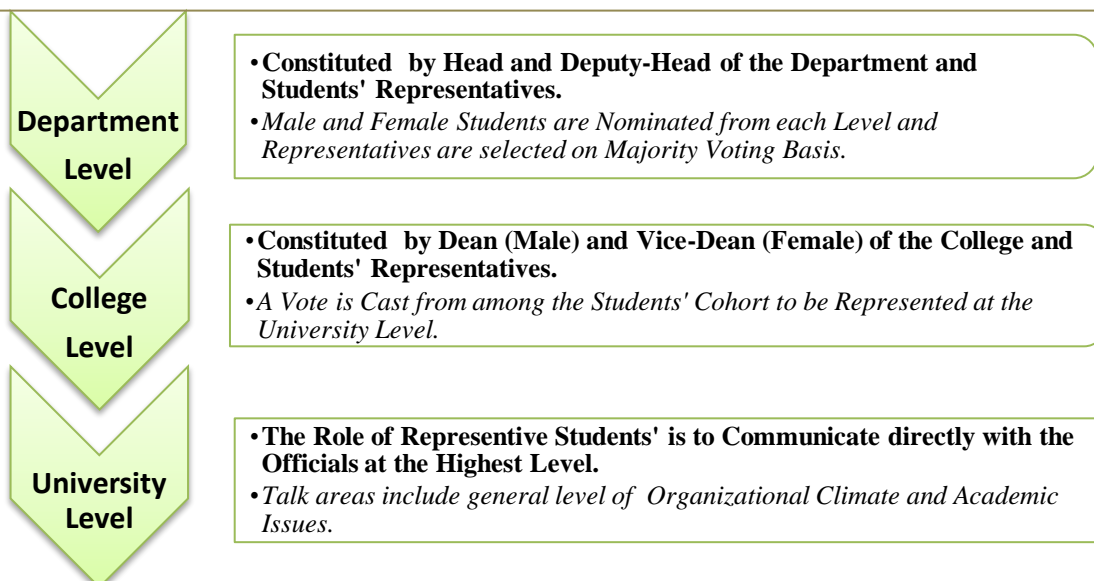

- **Faculty Members**

Faculty members have played a pivotal role right from the program's inception. They have participated in program's planning and development through their valuable feedback on different aspects of teaching and learning, program management and leadership, facilities and resources, organizational climate etc. They have also offered their feedback on program's mission, goals and learning outcomes through questionnaire surveys.

- **Students Advisory Committee**

Students represent one of the most effective internal stakeholders in the programplanning and development. They play a major role in the academic progress of the program and are effectively attributing towards its progress. They have a major say in all of the curricular, co-curricular and extra-curricular domains of the program and form an important part of student advising committee by being in direct contact with HOD and deputy HOD. All the issues related to the student affairs are represented and addressed in their monthly meetings, which are conducted in presence of program chairs.

Students' Representative Council at Taif University

Department Level
- Constituted by Head and Deputy-Head of the Department and Students' Representatives.
- *Male and Female Students are Nominated from each Level and Representatives are selected on Majority Voting Basis.*

College Level
- Constituted by Dean (Male) and Vice-Dean (Female) of the College and Students' Representatives.
- *A Vote is Cast from among the Students' Cohort to be Represented at the University Level.*

University Level
- The Role of Representive Students' is to Communicate directly with the Officials at the Highest Level.
- *Talk areas include general level of Organizational Climate and Academic Issues.*

- **Professional advisory Committee**

The professional advisory committee comprises of individuals who are experienced and knowledgeable in the professional field serving the academic program. The committee consists of a group of employers, employees and alumni who provide advice and consultancy to department members at the college to design, develop, implement, evaluate and improve the academic program. The committee works according to a pre- defined plan aimed at the promotion and improvement of the existing academic program, which contributes to the success of students in their future prospects.

- **Hospital Internship Supervisors**

The internship hosting institutes and hospitals assess the students' abilities and hence provide their valuable feedback on program learning outcomes and its achievement.

- **Alumni and Recent Graduates Follow-Up Committee**

The committee maintains constant communication with alumni and graduates through their emails as well as through WhatsApp group. They are invited to attend annual meeting where besides giving oral feedback, they provide their response through questionnaire survey.

- **Employers**

The employers provide their valuable feedback through survey done on program quality including learning outcomes, graduate attributes and performance of graduates in respective workplaces based on knowledge, skills and competencies,

2. Program Regulations

Provide a list of related program regulations, including their link to online version: admission, study and exams, recruitment, appeals and complaint regulations, etc.)

CLS Program at Taif University has an approved policy regarding admission, study and exams, faculty and staff recruitment, appeals and complaints and grievance regulations. These regulations work under the directives of Taif University policies.

Student Admission

- The students applying for admission to the program of Clinical Laboratory Sciences are required to have Higher Secondary School certificate, with a minimum percentage, as outlined in the university's admission guidelines.

- The Students are required to produce a character certificate showing his/her code of conduct.

- The Students are required to pass medical examination before being enrolled in the program.

Hyperlink

[Admissions handbook of TU](#)

Attendance and Completion Requirements

- **Attendance:** All students are required to be punctual and regular in attending their lectures. They need to show an authentic notification for being late or leaving early in unavoidable circumstance.

- **Progression from year to year:** In order to progress from one year to another and to be able to take all the majors in subsequent years, the students need to pass all pre-requisites.

- **Program completion or graduation requirements:** 4+1 years (160 credits) with a minimum GPA score and fulfill all university, college and program requirements.

Student Appeals

- Student grievance cell at Taif University addresses all grievances of students.

Recruitments

- For all positions, recruitment is basically accomplished through announcement posted on the University website.

- Candidates shortlisted for the final round are required to complete on-campus interviews.

Exams

The College of Applied Medical Sciences has a central examination unit that is responsible for all the examinations. It follows exam regulations of the University.

Hyperlink
- Exam Regulations at TU
- Quality management system manual
- Teaching, learning and assessment manual
- Colleges and Deanships Organizational Handbook
- Academic program design and development manual
- Admission Guidelines
- TU-Student Exam Regulations
- Final Exam Regulations in College of Applied Medical Sciences
- Students Rights and Responsibilities Laws
- Students Disciplinary Regulations
- TU-Final Exam Regulations
- TU-Quality of Final Exam Design
- TU-Regulations of Final Examinations

H. Program Quality Assurance

1. Program Quality Assurance System
Provide online link to quality assurance manual

The quality assurance system in the program of Clinical Laboratory Sciences follows the same regulations as mentioned in the Taif University quality management system guide and that of College of Applied Medical Sciences.

Hyperlink
TU-Quality Management System 2018
TU-Quality Management System 2021
CAMS-Quality Management System

2. Program Quality Monitoring Procedures

The procedures used for monitoring program quality of Clinical Laboratory Sciences are as follows:
- The program management implements an effective quality assurance and management system that is consistent with the Taif University quality system.
- The teaching staff, employee, and students participate in planning, quality assurance, and decision-making processes.
- The program management approves key performance indicators that accurately measure the program performance and coordinates to provide regular data on them.
- The program analyzes the evaluation data annually (e.g., performance indicators and benchmarking data, student progress, program completion rates, student evaluations of the program, courses and services, views of graduates and employers); and results are used in planning, development, and decision-making processes.
- The program conducts a periodic evaluation annually and prepares reports about the

overall level of quality, with the identification of points of strength and weakness; plans for improvement; and follows up its implementation. The program also conducts a comprehensive evaluation every five years.

Hyperlink

TU-Quality Management System

3. Arrangements to Monitor Quality of Courses Taught by other Departments.

Following points are considered to monitor the quality and progress of courses that are taught by other departments, as part of university requirements:

- The department leaders arrange a meeting with all academic staff from other departments, such as Islamic Studies, English, Biostatistics and Medical Physics. They are informed about the department rules, regulations and communication methods to be adopted in order to facilitate exchanging of information. They are instructed to provide the students with course specifications containing details such as learning outcomes, teaching and learning strategies, dates and methods of assessments right in their first meeting with students.
- The courses are periodically evaluated for ensuring the effectiveness of the teaching and learning strategies as well as assessment methods. Subsequently, reports are prepared for each course.
- The Study Plan and Program Committee inspects course specifications at the beginning of each semester and reviews course reports at the end and gives suitable recommendations to be included in the program annual report. The Development and Academic Accreditation Committee review the annual report and send back its suggestions to the Study Plan and Programs Committee in order to improve the quality of courses.

4. Arrangements Used to Ensure the Consistency between Main Campus and Branches
(including male and female sections)

The male and female sections are working collaboratively, in order to ensure consistencyin all aspects of program function that mainly include the following:

- The department is under direct and constant supervision of male and female head and deputy headships that work with mutual consent in all aspects of its governance.

- The administrative committees in the department have male and female governing members and decisions are made mutually between the two sections.

- Each course in the program has a coordinator (male or female) appointed by the department chair, who is responsible for regulating different aspects of the course in collaboration with other staff involved in teaching. The program unifies application of its study plan, the course specifications and assessment methods (activities, midterm exams and final exams) and academic file that is submitted at the end of each semester.

- Regular meetings are held between the male and female sections on monthly basis,

where all departmental agendas are discussed, approved and forwarded to College Council for further consideration.

- The student advisory committee consists of male and female class representatives and regular meetings are held to discuss issues raised by the students.

5. Arrangements to Apply the Institutional Regulations Governing the Educational and Research Partnerships (if any).

TU is supporting different types of research collaborations, funding new research groups andestablishing partnerships with foreign agencies. Furthermore, the departmental research committee facilitates collaboration of student'sgraduate capstone researches with the Directorate of Health Affairs in Taif region.

Hyperlink
- Memorandum of understanding (MOU) between Taif University and Department ofHealth Affairs Directorate in Taif region
- Memorandum of understanding (MOU) between Taif University and Armed ForcesHospitals in Taif

6. Assessment Plan for Program Learning Outcomes (PLOs), and Mechanisms of Using its Results in the Development Processes

CLS program learning outcomes are related to knowledge, skills and values and that students acquire as they progress through the program and are achieved through conglomerate of various courses constituting the program. The assessment of program learning outcomes an directly demonstrate the achievements of students in terms of knowledge, skills and values domains. The assessment of program learning outcomes at CLS program is done through the following closed loop actions as shown below.

The plan of assessment of Clinical Laboratory Sciences program will be carried out in an organized manner as follow:

- At the beginning of each semester, a meeting will be held in the presence of all faculty members and a decision made regarding selection of specific course learning outcomes that will be used to assess the achievement of the program through assessing PLOs linked to those course learning outcomes.

- The assessment of program achievement will be done by choosing some of the courses that show alignment with the selected PLOs through the map matrix.

- A variety of direct and indirect methods of measuring PLOs will be implemented for each selected PLO, in order to make an effective measurement of intended course learning outcomes.

- The results for each method will be compared with the target values and considered insetting up the action plan for further improvement in achieving intended learning outcomes of the selected courses.

- Year to year progression of student achievement as measured by different assessment strategies will be taken into consideration and action plan will be set up accordingly.

- Saudi Licensor examination for clinical laboratory specialists will be used in assessing the intended CLOs and PLOs for particular cohort of graduated students.

Methods Used in Assessment of Learning Outcomes in CLS Program

- Direct
- Indirect

Direct Methods	Indirect Methods
Written exams	Course evaluation survey (CES)
Practical exams	Program evaluation survey (PES)
Lab reports	Field training survey
Assignments	Alumni survey
OSPE	Employer survey
Scientific activities/other activities	Course Learning Outcomes Survey

Hyperlink
Detailed plan of PLO assessment of CLS Bachelor's Program

7. Program Evaluation Matrix

Evaluation Areas/Aspects	Evaluation Sources/References	Evaluation Methods	Evaluation Time
Program Leadership	• Staff members/ administrative staff	• Surveys	At the end of each academic year.
Effectiveness of Teaching and Assessment Strategies	• Students external stakeholders (alumni, employers)	• Student's surveys reports	At the end of each semester in an academic year.
Availability of LearningResources	• Students • Teachers	• Student's surveys • Faculty surveys	At the end of each semester in an academic year.
Availability of Facilities and Equipment	• Students • Teachers	• Student's surveys • Faculty surveys	At the beginning of each academic year.
Community Services	• Beneficiaries	• Interviews • Beneficiary satisfaction surveys	All through the semesters.

Evaluation Areas/Aspects (e.g., leadership, effectiveness of teaching & assessment, learning resources, partnerships, etc.)
Evaluation Sources (students, graduates, alumni, faculty, program leaders, administrative staff, employers, independent reviewers, and others (specify)
Evaluation Methods (e.g., Surveys, interviews, visits, etc.)
Evaluation Time (e.g., beginning of semesters, end of academic year, etc.)

8. Program KPIs*

The period to achieve the target (One) year.

No	KPIs Code	KPIs	Target	Measurement Methods	Measurement Time
1	**KPI-P-01**	Percentage of achieved indicators of the program operational plan objectives. **(Main Campus and Turabah Branch)**	**89%**	**Statistical (Percentage)** Percentage of performance indicators of the operational plan objectives of the program that achieved the targeted annual level to the total number of indicators targeted for these objectives in the same year.	At the beginning of each academic year.
2	**KPI-P-02**	Students' evaluation of quality of learningexperience in the program. **(Main Campus and Turabah Branch)**	**3.5 out of 5.0**	**Average satisfaction (Rating)** Average of overall rating of final year students for the quality of learning experience in the program on a five-point scale in an annual survey.	At the end of each academic year.
3	**KPI-P-03**	Students' evaluation of the quality of the courses. **(Main Campus and Turabah Branch)**	**4.0 out of 5.0**	**Average satisfaction (Rating)** Average students overall rating for the quality of courses on a five-point scale in an annual survey.	At the end of each semester.
4	**KPI-P-04**	Completion rate. **(Main Campus Only)**	**70%**	**Statistical (Percentage)** Proportion of undergraduate students who completed the program in minimum time in each cohort.	At the end of clinical internship in each academic year.
5	**KPI-P-05**	First-year students' retention rate. **(Main Campus and Turabah Branch)**	**95%**	**Statistical (Percentage)** Percentage of first-year undergraduate students who continue at the program the next year to the total number of first-year students in the same year.	At the end of each academic year.

6	**KPI-P-06**	Students' performance in the professional and/or national examinations. **(Main Campus Only)**	**70%**	**Statistical (Percentage)** Percentage of students or graduates who were successful in the professional and / or national examinations, or their score average and median (if any)	At the beginning of each academic year. ***Under process**
7	**KPI-P-07**	Graduates' employability and enrolment in postgraduate programs. **(Main Campus Only)**	**23%**	**Statistical (Percentage)** Percentage of graduates from the program who within a year of graduation were: a. employed b. enrolled in postgraduate programsduring the first year of their graduation to the total number of graduates in the same year.	At the end of each academic year.
8	**KPI-P-08**	Average number of students in the class. **(Main Campus and Turabah Branch)**	**10 per class**	**Statistical (Number)** Average number of students per class (in each teaching session/activity: lecture, small group, tutorial, laboratory or clinical session).	At the end of each academic year.
9	**KPI-P-09**	Employers' evaluation of the program graduates' proficiency. **(Main Campus Only)**	**4.5 out of 5.0**	**Average satisfaction (Rating)** Average of overall rating of employers for the proficiency of the program graduates on a five-point scale in an annual survey.	At the end of each academic year.
10	**KPI-P-10**	Students' satisfaction with the offered services. **(Main Campus and Turabah Branch)**	**3.2 out of 5.0**	**Average satisfaction (Rating)** Average of students' satisfaction rate with the various services offered by the program on a five-point scale in an annual survey.	At the end of each academic year.

11	**KPI-P-11**	Ratio of students to teaching staff. **(Main Campus and Turabah Branch)**	**10:1**	**Statistical (Ratio)** Ratio of the total number of students to the total number of full-time and full-time equivalent teaching staff in the program.	At the end of each academic year.
12	**KPI-P-12**	Percentage of teaching staff distribution. **(Main Campus and Turabah Branch)**	**10% Professors** **40% Associate Professors** **30% Assistant Professors** **10% Lecturers** **10% Demonstrators**	**Statistical (Percentage)** Percentage of teaching staff distribution based on: a. Gender b. Branches c. Academic Ranking	At the end of each academic year.
13	**KPI-P-13**	Proportion of teaching staff leaving the program. **(Main Campus and Turabah Branch)**	**5%**	**Statistical (Percentage)** Proportion of teaching staff leaving the program annually for reasons other than age retirement to the total number of teaching staff.	At the end of each academic year.
14	**KPI-P-14**	Percentage of publications of faculty members. **(Main Campus and Turabah Branch)**	**82.5%**	**Statistical (Percentage)** Percentage of full-time faculty members who published at least one research during the year to total faculty members in the program.	At the end of each academic year.
15	**KPI-P-15**	Rate of published research per faculty member. **(Main Campus and Turabah Branch)**	**2.6 per faculty member**	**Statistical (Ratio)** The average number of refereed and/or published research per each faculty member during the year (total number of refereed and/or published research to the total number of full-time or equivalent faculty members during the year).	At the end of each academic year.

16	KPI-P-16	Citations rate in refereed journals per faculty member. **(Main Campus and Turabah Branch)**	**22.5 per faculty member**	**Statistical (Ratio)** The average number of citations in refereed journals from published research per faculty member in the program (total number of citations in refereed journals from published research for full-time or equivalent faculty members to the total research published.	At the end of each academic year.
17	KPI-P-17	Satisfaction of beneficiaries with the learning resources. **(Main Campus and Turabah Branch)**	**3.5 out of 5.0**	**Average satisfaction (Rating)** Average of beneficiaries' satisfaction rate with the adequacy and diversity of learning resources on a five-point scale in an annual survey.	At the end of each academic year.
18	TU-CLS1	Ratio of students to administrative staff. **(Main Campus and Turabah Branch)**	**25:1**	**Statistical (Ratio)** Defined as the quotient q of the number of students (computed as full-time equivalent) and the number of administrative staff (computed as full-time equivalent), rounded to the nearest integer, and expressed as r: 1.	At the end of each academic year.
19	TU-CLS2	Proportion of full-time faculty engaged in community service activities. **(Main Campus and Turabah Branch)**	**50%**	**Statistical (Percentage)** Ratio of the number of full-time faculty members engaged in community service activities relative to the total number of full-time faculty members, and expressed as a percentage.	At the end of each academic year.
20	TU-CLS3	Satisfaction of beneficiaries with the community services. **(Main Campus and Turabah Branch)**	**3.5 out of 5.0**	**Average satisfaction (Rating)** Average of beneficiaries' satisfaction rate with the community services provided by the program on a five-point scale in an annual survey.	At the end of each academic year.

| 21 | TU-CLS4 | Percentage of beneficiaries satisfied with the organizational climate. **(Main Campus and Turabah Branch)** | **70%** | **Statistical (Percentage)**
 Average of beneficiaries' satisfaction rate with the organizational climate of the program/College on a five-point scale in a periodic survey. | At the end of each academic year. |

* including KPIs required by NCAAA

I. Specification Approval Data

Council / Committee	Department Council
Reference No.	Meeting Number 11
Date	19/05/2022