



## Course Specifications

<b>Course Title:</b>	<b>Laboratory Skills</b>
<b>Course Code:</b>	<b>373225-3</b>
<b>Program:</b>	<b>Bachelor in Clinical Laboratory Sciences; Level-6 (Program Code: 373000)</b>
<b>Department:</b>	<b>Clinical Laboratory Sciences Department</b>
<b>College:</b>	<b>College of Applied Medical Sciences</b>
<b>Institution:</b>	<b>Taif University</b>

## Table of Contents

<b>A. Course Identification</b> .....	<b>3</b>
6. Mode of Instruction (mark all that apply) .....	3
<b>B. Course Objectives and Learning Outcomes</b> .....	<b>3</b>
1. Course Description .....	3
2. Course Main Objective.....	3
3. Course Learning Outcomes .....	4
<b>C. Course Content</b> .....	<b>4</b>
<b>D. Teaching and Assessment</b> .....	<b>5</b>
1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods.....	6
2. Assessment Tasks for Students .....	6
<b>E. Student Academic Counseling and Support</b> .....	<b>7</b>
<b>F. Learning Resources and Facilities</b> .....	<b>7</b>
1. Learning Resources .....	7
2. Facilities Required.....	8
<b>G. Course Quality Evaluation</b> .....	<b>8</b>
<b>H. Specification Approval Data</b> .....	<b>8</b>

## A. Course Identification

<b>1. Credit hours:</b> 3 Hours (2 T + 1 P)
<b>2. Course type</b>
a. University <input type="checkbox"/> College <input type="checkbox"/> Department <input checked="" type="checkbox"/> Others <input type="checkbox"/>
b. Required <input checked="" type="checkbox"/> Elective <input type="checkbox"/>
<b>3. Level/year at which this course is offered:</b> 4 <sup>th</sup> Level/ Second Year
<b>4. Pre-requisites for this course (if any):</b> None
<b>5. Co-requisites for this course (if any):</b> None

## 6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	3 hours /week= 30 hours/semester	50%
2	Blended	None	0%
3	E-learning	None	0%
4	Distance learning	None	0%
5	Other (Laboratory)	3 hours /week= 30 hours/semester	50%

## 7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	Lecture	30
2	Laboratory/Studio	30
3	Tutorial	N/A
4	Others (specify)	NA
	<b>Total</b>	<b>60 Hours</b>

## B. Course Objectives and Learning Outcomes

<p><b>1. Course Description</b></p> <p>Laboratory skills involves a large amount of practical work in laboratories. It involves instructions from the lab instructor, following a practical schedule, learning techniques, taking measurements, observing and recording data, calculating and presenting data. The references which will be used in the course will emphasize ‘essential’ skills and the practical steps required to use equipment and learn several techniques related to the specialty.</p>
<p><b>2. Course Main Objective</b></p> <p>The main objective of this course is to make students learn and develop skills required for working in different specialties of clinical laboratory sciences.</p>

### 3. Course Learning Outcomes

CLOs		Aligned PLOs
1	<b>Knowledge and Understanding</b>	
1.1	Recognize the general knowledge of techniques and equipments in clinical laboratory.	K1
1.2	Identify the different methods to perform tests manually by measuring volume and weight of analytes.	K2
2	<b>Skills:</b>	
2.1	Perform scientific experiments in safe and effective manner in laboratory environment.	S1
2.2	Conduct accurate measurement of analytes and data obtained on testing.	S2
2.3	Use proper mathematical and statistical methods in laboratory procedures.	S3
3	<b>Values:</b>	
None		

### C. Course Content (Theory)

No	List of Topics	Contact Hours
1	<b>Laboratory Safety and Regulations (Presentation)</b> <ul style="list-style-type: none"> <li>• Disinfectants</li> <li>• Chemical safety</li> <li>• Biological safety</li> <li>• Safety from radiation</li> </ul>	3
2	<b>Clinical Laboratory Supplies (Presentation)</b> <ul style="list-style-type: none"> <li>• Glassware</li> <li>• Plasticware</li> <li>• Thermometer equipment's selection</li> </ul>	3
3	<b>Units of Measure (Book Chapter/Chapter 1; Pages 1-19)</b> <ul style="list-style-type: none"> <li>• Units, measurements and SI Units</li> <li>• Measuring the volumes</li> <li>• Pipetting</li> <li>• Weighing</li> </ul>	3
4	<b>Laboratory Mathematics and Calculations (Presentation and Book /Chapter 1; 19-22)</b> <ul style="list-style-type: none"> <li>• Concentration</li> <li>• Dilutions</li> <li>• Calculations involving solutions</li> </ul>	3

5	<b>Preparing Solutions and Reagents (Book Chapter/Chapter 2; Pages 23-31)</b> <ul style="list-style-type: none"> <li>• Common terms defining solutions</li> <li>• Precautions in making solutions</li> <li>• Making solutions</li> <li>• Molar solutions</li> </ul>	3
6	<b>Acid – Base and pH (Presentation, Book Chapter/Chapter 4; 55-60)</b> <ul style="list-style-type: none"> <li>• Acidic solutions</li> <li>• Basic solutions</li> <li>• Buffers</li> <li>• Solubility and solubility product</li> </ul>	3
7	<b>Basic Separation Techniques (Book Chapter/Chapter 3; 35-53)</b> <ul style="list-style-type: none"> <li>• Filtration</li> <li>• Centrifugation</li> <li>• Chromatography</li> <li>• Electrophoresis</li> </ul>	3
8	<b>Microscopy and Histology (Book Chapter/Chapter 5; 95-112)</b> <ul style="list-style-type: none"> <li>• Light microscopy</li> <li>• Slide preparation</li> <li>• Cell Counting</li> </ul>	3
9	<b>Phlebotomy (Presentation)</b> <ul style="list-style-type: none"> <li>• Venipuncture</li> <li>• Pre-analytical Considerations</li> </ul>	3
10	<b>Specimen Considerations (Presentation)</b> <ul style="list-style-type: none"> <li>• Types of Samples</li> <li>• Sample Processing</li> </ul>	3
<b>Total</b>		30

### C. Course Content (Practical)

No	List of Topics	Contact Hours
1	Laboratory Safety Rules <b>(Lab Manual)</b>	3
2	Clinical laboratory Supplies <b>(Lab Manual)</b>	3
3	Units of Measure <b>(Lab Manual)</b> Solid and Liquid Measurements Using Analytical Balance, Glassware and Pipettes	3
4	Making Solutions of Differing Molarity Concentrations <b>(Lab Manual)</b>	3
5	Preparing Solutions using Dilution <b>(Lab Manual)</b>	3
6	Acid-base and pH Determination <b>(Lab Manual)</b>	3
7	Basic Separation Techniques <b>(Lab Manual)</b>	3
8	Microscopy <b>(Lab Manual)</b>	3
9	Phlebotomy <b>(Lab Manual)</b>	3
10	Specimen Consideration <b>(Lab Manual)</b>	3
<b>Total</b>		30

## D. Teaching and Assessment

### 1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
<b>1.0</b>	<b>Knowledge and Understanding</b>		
<b>1.1</b>	Recognize the general knowledge of techniques and equipments in clinical laboratory.	<ul style="list-style-type: none"> <li>Lectures</li> </ul>	<ul style="list-style-type: none"> <li>Written Exam</li> <li>Assignment</li> </ul>
<b>1.2</b>	Identify the different methods to perform tests manually by measuring volume and weight of analytes.	<ul style="list-style-type: none"> <li>Lectures</li> <li>Practical Sessions</li> </ul>	<ul style="list-style-type: none"> <li>Written Exam</li> <li>Practical Exam</li> <li>Lab Report</li> </ul>
<b>2.0</b>	<b>Skills</b>		
<b>2.1</b>	Perform scientific experiments in safe and effective manner in laboratory environment.	<ul style="list-style-type: none"> <li>Practical Sessions</li> </ul>	<ul style="list-style-type: none"> <li>Practical Exam</li> <li>Lab Report</li> </ul>
<b>2.2</b>	Conduct accurate measurement of analytes and data obtained on testing.	<ul style="list-style-type: none"> <li>Lectures</li> <li>Practical Sessions</li> </ul>	<ul style="list-style-type: none"> <li>Written Exam</li> <li>OSPE</li> </ul>
<b>2.3</b>	Use proper mathematical methods in laboratory procedures.	<ul style="list-style-type: none"> <li>Practical Sessions</li> </ul>	<ul style="list-style-type: none"> <li>Practical Exam</li> </ul>
<b>3.0</b>	<b>Values</b>		
<b>None</b>			

### 2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Mid-Term Exam	5 <sup>th</sup> week	15%
2	Activity	Throughout	5%
3	Practical report	Throughout	10%
4	Final Practical Exam	11 <sup>th</sup> week	20%
5	Final Exam	12 <sup>th</sup> /13 <sup>th</sup> week	50%
<b>Total</b>			<b>100%</b>

\*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

## E. Student Academic Counseling and Support

### Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

- Course instructors are available for individual consultation in their free time. They are usually full-time permanent members present on-campus from 8:00 am to 2:30 pm on all working days. Appointments can be made in person with the instructor through email etc. Days and time availability of each instructor are posted on their doors. Course instructors provide a range of academic and course management advice including course planning and its progression.
- Each student at the department of Clinical Laboratory Sciences has an academic adviser who is available for individual consultation and guidance. Appointments can be made in person with the instructor through email etc. Days and time availability of each adviser are posted on their doors. The academic adviser can provide support with time management, exam preparation, clarification of subject requirements, feedback on performance and dealing with personal issues as well.

## F. Learning Resources and Facilities

### 1. Learning Resources

<b>Required Textbooks</b>	<ul style="list-style-type: none"><li>• Meah M.S. and E. Kebede-Westhead, Essential Laboratory Skills for Biosciences (2012), 1<sup>st</sup> Edition, Wiley-Blackwell Publishers. ISBN 978-0-470-68647-8.</li></ul>
<b>Essential References Materials</b>	<ul style="list-style-type: none"><li>• None</li></ul>
<b>Electronic Materials</b>	<ul style="list-style-type: none"><li>• Saudi Digital Library, PubMed, Google Scholar</li></ul>
<b>Other Learning Materials</b>	<ul style="list-style-type: none"><li>• Journals, Scientific Magazines and Articles</li></ul>

## 2. Facilities Required

Item	Resources
<b>Accommodation</b> (Classrooms, laboratories, demonstration rooms/labs, etc.)	Classrooms and Laboratories
<b>Technology Resources</b> (AV, data show, Smart Board, software, etc.)	Data show, Blackboard and A/V
<b>Other Resources</b> (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	<ul style="list-style-type: none"> <li>• Fume hood</li> <li>• Light Microscopes</li> <li>• Analytical balance</li> </ul>

## G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Student's feedback on effectiveness of teaching.	<ul style="list-style-type: none"> <li>• Students</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Indirect:</b> Questionnaire Survey at the end of each semester.</li> </ul>
Quality of learning resources (laboratory and library) related to each course.	<ul style="list-style-type: none"> <li>• Students</li> <li>• Staff members</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Indirect:</b> Questionnaire Survey at the end of each semester related to learning resources.</li> </ul>
Evaluation of teaching	<ul style="list-style-type: none"> <li>• Peer evaluators</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Indirect:</b> Peer evaluation</li> </ul>
Evaluation of exam quality and assessment.	<ul style="list-style-type: none"> <li>• Exam committee</li> <li>• Students</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Direct:</b> Exam paper/ exam blueprint review</li> <li>• <b>Indirect:</b> Questionnaire Survey at the end of each semester.</li> </ul>
Achievement of course learning outcomes	<ul style="list-style-type: none"> <li>• Course Coordinators</li> <li>• Development and accreditation committee</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Direct:</b> Student's Performance assessed through item analysis and rubrics.</li> </ul>

**Evaluation areas** (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

**Evaluators** (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

**Assessment Methods** (Direct, Indirect)

## H. Specification Approval Data

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





## Course Specifications

<b>Course Title:</b>	<b>Professional and Communication Skills</b>
<b>Course Code:</b>	<b>373218-2</b>
<b>Program:</b>	<b>Bachelor in Clinical Laboratory Sciences; Level-6 (Program Code: 373000)</b>
<b>Department:</b>	<b>Clinical Laboratory Sciences Department</b>
<b>College:</b>	<b>College of Applied Medical Sciences</b>
<b>Institution:</b>	<b>Taif University</b>

## Table of Contents

<b>A. Course Identification</b> .....	<b>3</b>
6. Mode of Instruction (mark all that apply) .....	3
7. Contact Hours (based on academic semester) .....	3
<b>B. Course Objectives and Learning Outcomes</b> .....	<b>3</b>
3. Course Learning Outcomes .....	5
<b>C. Course Content</b> .....	<b>4</b>
1. Theory .....	6
2. Practical.....	7
<b>D. Teaching and Assessment</b> .....	<b>5</b>
1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods .....	5
2. Assessment Tasks for Students .....	5
<b>E. Student Academic Counseling and Support</b> .....	<b>6</b>
<b>F. Learning Resources and Facilities</b> .....	<b>6</b>
1. Learning Resources .....	6
2. Facilities Required.....	7
<b>G. Course Quality Evaluation</b> .....	<b>7</b>
<b>H. Specification Approval Data</b> .....	<b>7</b>

## A. Course Identification

<b>1. Credit hours:</b> 2 Hours Theory
<b>2. Course type</b>
a. University <input type="checkbox"/> College <input type="checkbox"/> Department <input checked="" type="checkbox"/> Others <input type="checkbox"/>
b. Required <input checked="" type="checkbox"/> Elective <input type="checkbox"/>
<b>3. Level/year at which this course is offered:</b> 4 <sup>th</sup> Level/ Second Year
<b>4. Pre-requisites for this course (if any):</b> None
<b>5. Co-requisites for this course (if any):</b> None

## 6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	3 hours /week= 30 hours/semester	100%
2	Blended	None	0%
3	E-learning	None	0%
4	Distance learning	None	0%
5	Other (Laboratory)	None	0%

## 7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	Lecture	30
2	Laboratory/Studio	N/A
3	Tutorial	N/A
4	Others (specify)	NA
	<b>Total</b>	<b>30 Hours</b>

## B. Course Objectives and Learning Outcomes

<b>1. Course Description</b> This course will enable students to understand the significance of communication skills, types and channels of communication in professional life and while dealing with local community.
<b>2. Course Main Objective</b> Upon completing this course, the students will enhance their communication skills and be effective communicators with the people having medical and non-medical background.

### 3. Course Learning Outcomes

CLOs		Aligned PLOs
1	<b>Knowledge and Understanding</b>	
None		
2	<b>Skills:</b>	
2.1	Employ excellent communication and problem-solving skills in context of professional setting.	S4
3	<b>Values:</b>	
3.1	Exhibit ethics and professionalism in performing tasks.	V1
3.2	Demonstrate responsible attitude towards society through tasks that raise their awareness.	V2

### C. Course Content

No	List of Topics	Contact Hours
1	Introduction to communication skills - Definition of communication (Presentation)	2
2	Importance of Communication in an organization (Presentation)	2
3	Types of communication and the Channels of Communication (Presentation)	4
4	Factors Influencing communication (Presentation)	2
5	Intra-laboratory communication (Presentation)	4
6	Extra-laboratory communication (Presentation)	4
7	Why communication breakdown (Presentation)	4
8	Improving communication in organizations (Presentation)	2
9	Communication by computer technology (Presentation)	2
10	Professional and communication skills in overview (Presentation)	4
<b>Total</b>		<b>30</b>

## D. Teaching and Assessment

### 1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	<b>Knowledge and Understanding:</b>		
	None		
2.0	<b>Skills:</b>		
2.1	Employ excellent communication and problem-solving skills in context of professional setting.	<ul style="list-style-type: none"> <li>Lectures</li> <li>Problem-Based Learning</li> </ul>	<ul style="list-style-type: none"> <li>Written Exam</li> </ul>
3.0	<b>Values:</b>		
3.1	Exhibit ethics and professionalism in performing tasks.	<ul style="list-style-type: none"> <li>Group Discussion</li> </ul>	<ul style="list-style-type: none"> <li>Activity</li> </ul>
3.2	Demonstrate responsible attitude towards society through tasks that raise their awareness.	<ul style="list-style-type: none"> <li>Service Learning</li> </ul>	<ul style="list-style-type: none"> <li>Activity</li> </ul>

### 2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Mid-Term Exam	5 <sup>th</sup> week	30%
2	Activity	Throughout	10%
3	Final Exam	12 <sup>th</sup> /13 <sup>th</sup> week	60%
	<b>Total</b>		<b>100%</b>

\*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

## E. Student Academic Counseling and Support

### Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

- Course instructors are available for individual consultation in their free time. They are usually full-time permanent members present on-campus from 8:00 am to 2:30 pm on all working days. Appointments can be made in person with the instructor through email etc. Days and time availability of each instructor are posted on their doors. Course instructors provide a range of academic and course management advice including course planning and its progression.
- Each student at the department of Clinical Laboratory Sciences has an academic adviser who is available for individual consultation and guidance. Appointments can be made in person with the instructor through email etc. Days and time availability of each adviser are posted on their doors. The academic adviser can provide support with time management, exam preparation, clarification of subject requirements, feedback on performance and dealing with personal issues as well.

## F. Learning Resources and Facilities

### 1. Learning Resources

<b>Required Textbooks</b>	<ul style="list-style-type: none"> <li>• Lawrence, D. (2014). <i>Communication Skills for Healthcare Professionals Manual: A comprehensive guide to the communication process for healthcare professionals</i>. 3<sup>rd</sup> Ed. Brightday Publishing. ISBN: 9781284141429.</li> <li>• McCorry, L. K., &amp; Mason, J. (2020). <i>Communication skills for the healthcare professional</i>. Enhanced second edition. Burlington, MA: Jones &amp; Bartlett Learning. ISBN-13: 9781284219999; ISBN-10: 1284219992.</li> <li>• Kurtz, S. M., Silverman, J., &amp; Draper, J. (2015). <i>Teaching and learning communication skills in medicine</i>. Nota. ISBN 1-85775-658-4.</li> </ul>
<b>Essential References Materials</b>	None
<b>Electronic Materials</b>	<ul style="list-style-type: none"> <li>• The American Journal of Critical Care <a href="http://ajcc.aacnjournals.org/site/misc/CEArchives.xhtml">http://ajcc.aacnjournals.org/site/misc/CEArchives.xhtml</a></li> </ul>
<b>Other Learning Materials</b>	<ul style="list-style-type: none"> <li>• Teaching of Communication Skills Using Multimedia and Language Laboratory <a href="https://www.iupindia.in/1609/Soft%20Skills/Teaching_of_Communication.html">https://www.iupindia.in/1609/Soft%20Skills/Teaching_of_Communication.html</a></li> </ul>

## 2. Facilities Required

Item	Resources
<b>Accommodation</b> (Classrooms, laboratories, demonstration rooms/labs, etc.)	Classrooms
<b>Technology Resources</b> (AV, data show, Smart Board, software, etc.)	Data Show, Blackboard and A/V
<b>Other Resources</b> (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	None

## G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Student's feedback on effectiveness of teaching.	<ul style="list-style-type: none"> <li>Students</li> </ul>	<ul style="list-style-type: none"> <li><b>Indirect:</b> Questionnaire Survey at the end of each semester.</li> </ul>
Quality of learning resources (laboratory and library) related to each course.	<ul style="list-style-type: none"> <li>Students</li> <li>Staff members</li> </ul>	<ul style="list-style-type: none"> <li><b>Indirect:</b> Questionnaire Survey at the end of each semester related to learning resources.</li> </ul>
Evaluation of teaching	<ul style="list-style-type: none"> <li>Peer evaluators</li> </ul>	<ul style="list-style-type: none"> <li><b>Indirect:</b> Peer evaluation</li> </ul>
Evaluation of exam quality and assessment.	<ul style="list-style-type: none"> <li>Exam committee</li> <li>Students</li> </ul>	<ul style="list-style-type: none"> <li><b>Direct:</b> Exam paper/ exam blueprint review</li> <li><b>Indirect:</b> Questionnaire Survey at the end of each semester.</li> </ul>
Achievement of course learning outcomes	<ul style="list-style-type: none"> <li>Course Coordinators</li> <li>Development and accreditation committee</li> </ul>	<ul style="list-style-type: none"> <li><b>Direct:</b> Student's Performance assessed through item analysis and rubrics.</li> </ul>

**Evaluation areas** (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

**Evaluators** (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

**Assessment Methods** (Direct, Indirect)

## H. Specification Approval Data

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



## Course Specifications

<b>Course Title:</b>	<b>Basic of Medical Microbiology</b>
<b>Course Code:</b>	<b>373228-3</b>
<b>Program:</b>	<b>Bachelor in Clinical Laboratory Sciences; Level-6 (Program Code: 373000)</b>
<b>Department:</b>	<b>Clinical Laboratory Sciences Department</b>
<b>College:</b>	<b>College of Applied Medical Sciences</b>
<b>Institution:</b>	<b>Taif University</b>



## Table of Contents

<b>A. Course Identification</b> .....	<b>3</b>
6. Mode of Instruction (mark all that apply) .....	3
<b>B. Course Objectives and Learning Outcomes</b> .....	<b>3</b>
1. Course Description .....	3
2. Course Main Objective.....	3
3. Course Learning Outcomes .....	4
<b>C. Course Content</b> .....	<b>4</b>
<b>D. Teaching and Assessment</b> .....	<b>5</b>
1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods.....	5
2. Assessment Tasks for Students .....	6
<b>E. Student Academic Counseling and Support</b> .....	<b>7</b>
<b>F. Learning Resources and Facilities</b> .....	<b>7</b>
1. Learning Resources .....	7
2. Facilities Required.....	8
<b>G. Course Quality Evaluation</b> .....	<b>8</b>
<b>H. Specification Approval Data</b> .....	<b>8</b>

## A. Course Identification

<b>1. Credit hours:</b> 3 Hours (2 T + 1 P)
<b>2. Course type</b>
a. University <input type="checkbox"/> College <input type="checkbox"/> Department <input checked="" type="checkbox"/> Others <input type="checkbox"/>
b. Required <input checked="" type="checkbox"/> Elective <input type="checkbox"/>
<b>3. Level/year at which this course is offered:</b> 4 <sup>th</sup> Level/ Second Year
<b>4. Pre-requisites for this course (if any):</b> None
<b>5. Co-requisites for this course (if any):</b> None

## 6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	3 hours /week= 30 hours/semester	50%
2	Blended	None	0%
3	E-learning	None	0%
4	Distance learning	None	0%
5	Other (Laboratory)	3 hours /week= 30 hours/semester	50%

## 7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	Lecture	30
2	Laboratory/Studio	30
3	Tutorial	N/A
4	Others (specify)	NA
	<b>Total</b>	<b>60 Hours</b>

## B. Course Objectives and Learning Outcomes

<p><b>1. Course Description</b></p> <p>This course covers the general principles of microbiology including classification of different groups of microorganisms and morphology of each groups. In addition, a brief introduction to the pathogenicity of each group of microorganisms is also included. At the end of this course the students should be able to understand and differentiate between microorganism shapes, requirements, virulence factors and their pathogenicity mechanisms.</p>
<p><b>2. Course Main Objective</b></p> <p>On completion of this course, the students should know different groups of microorganisms according to morphology and classification, and their roles in pathogenicity. They should also be able to distinguish between different microorganisms using laboratory techniques.</p>

### 3. Course Learning Outcomes

CLOs		Aligned PLOs
1	<b>Knowledge and Understanding:</b>	
1.1	Recall general properties, structure and classification of the different groups of microorganisms, their requirements and pathogenicity.	<b>K1</b>
1.2	Describe mode of action of the antimicrobial agents and the resistance mechanisms of microorganisms to them.	<b>K1</b>
1.3	Recognize laboratory diagnosis of microbial infections, methods of sterilization and disinfection.	<b>K2</b>
2	<b>Skills:</b>	
2.1	Perform various laboratory procedures in microbiological context in a safe and effective manner.	<b>S1</b>
2.2	Employ skills to differentiate between bacteria, viruses and fungi.	<b>S1</b>
3	<b>Values:</b>	
	<b>None</b>	

### C. Course Content (Theory)

No	List of Topics	Contact Hours
1	<b>Introduction to Bacteriology/ Structure of Bacterial Cell (Presentation)</b> <ul style="list-style-type: none"> <li>Prokaryotic and Eukaryotic cells</li> <li>Bacterial structure &amp; Shape</li> <li>Bacterial classification</li> </ul>	3
2	<b>Bacterial Reproduction, Physiology &amp; Metabolism (Presentation)</b> <ul style="list-style-type: none"> <li>Bacterial requirement for growth &amp; metabolism</li> <li>Bacterial growth curve</li> </ul>	3
3	<b>Bacteriophage/ Bacterial Genetics/ Genetic Recombination (Presentation)</b> <ul style="list-style-type: none"> <li>Structure of Bacteriophage</li> <li>Practical use of Bacteriophage</li> <li>Gene Expression</li> <li>Bacterial genetic structures</li> <li>Bacterial Phenotypic &amp; Genotypic variations</li> <li>Genetic Recombination Techniques</li> </ul>	3
4	<b>Classification of Medically Important Bacteria (Book chapter/ Chapter 5; Pages 24-25)</b> <ul style="list-style-type: none"> <li>Different classes of Medically Important Bacteria</li> </ul>	3

5	<b>Pathogenesis of Bacterial Infections (Book chapter/ Chapter 7; Pages 31-48)</b> <ul style="list-style-type: none"> <li>• Infection &amp; Disease</li> <li>• Carriers of pathogenic organisms</li> <li>• Bacterial Virulence Factors</li> </ul>	3
6	<b>Antimicrobial Chemotherapy (Presentation)</b> <ul style="list-style-type: none"> <li>• Bactericidal &amp; Bacteriostatic Drugs</li> <li>• Broad-spectrum &amp; Narrow-spectrum Antibiotics</li> <li>• Mechanisms of Action of Chemotherapeutic agents</li> <li>• Mechanisms of Resistance of Antimicrobial Drugs</li> <li>• Complications of Antimicrobial Chemotherapy</li> <li>• Chemoprophylaxis</li> </ul>	3
7	<b>Introduction to Virology (Presentation)</b> <ul style="list-style-type: none"> <li>• General Properties of Viruses</li> <li>• Viral structures &amp; Functions</li> <li>• Viral Replication</li> <li>• Viral Genetics</li> <li>• Pathogenesis of Viral Infections</li> <li>• Laboratory Diagnosis of viral Infections</li> <li>• Antiviral Drugs</li> </ul>	3
8	<b>Classification of Medically Important Viruses (Book chapter/ Chapter 31; Pages 238-242)</b> <ul style="list-style-type: none"> <li>• DNA Viruses</li> <li>• RNA Viruses</li> </ul>	3
9	<b>Introduction to Mycology (Presentation)</b> <ul style="list-style-type: none"> <li>• General Properties of Fungi</li> <li>• Morphology of Fungi</li> <li>• Reproduction of Fungi</li> <li>• Pathogenicity of Fungi</li> <li>• Laboratory diagnosis of Fungi</li> <li>• Antifungal Drugs</li> </ul>	3
10	<b>Classification of Medically Important Fungi (Book chapters/ Chapter 47/48/49/50; Pages 383-407)</b> <ul style="list-style-type: none"> <li>• Morphological Classification</li> <li>• Systematic Classification</li> <li>• Clinical Classification</li> </ul>	3
<b>Total</b>		<b>30</b>

### C. Course Content (Practical)

No	List of Topics	Contact Hours
1	Introduction/ Laboratory Safety Measures (Lab Manual) + (Presentation)	3
2	Microscopy (Lab Manual) + (Presentation)	3
3	Introduction to Diagnosis of Bacterial Infections (Lab Manual) + (Presentation)	3
4	Bacterial Stains (Lab Manual) + (Presentation)	3
5	Bacterial Culture Media (Lab Manual) + (Presentation)	3
6	Midterm Exam (Lab Manual) + (Presentation)	3
7	Antibiotic Sensitivity Testing (Lab Manual) + (Presentation)	3
8	Sterilization & Disinfection (Lab Manual) + (Presentation)	3
9	Introduction to Diagnosis of Viral Infection (Lab Manual) + (Presentation)	3
10	Introduction to Diagnosis of Fungal Infection (Lab Manual) + (Presentation)	3
<b>Total</b>		<b>30</b>

### D. Teaching and Assessment

#### 1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
<b>1.0</b>	<b>Knowledge and Understanding</b>		
1.1	Recall general properties, structure and classification of the different groups of microorganisms, their requirements and pathogenicity.	• Lectures	• Written Exam • Assignments
1.2	Describe mode of action of the antimicrobial agents and the resistance mechanisms of microorganisms to them.	• Lectures	• Written Exam

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.3	Recognize laboratory diagnosis of microbial infections, methods of sterilization and disinfection.	<ul style="list-style-type: none"> <li>Lectures</li> <li>Practical Sessions</li> </ul>	<ul style="list-style-type: none"> <li>Written Exam</li> <li>Practical Exam</li> </ul>
2.0	<b>Skills</b>		
2.1	Perform various laboratory procedures in microbiological context in a safe and effective manner.	<ul style="list-style-type: none"> <li>Practical Sessions</li> </ul>	<ul style="list-style-type: none"> <li>Practical Exam</li> <li>Lab Reports</li> </ul>
2.2	Employ skills to differentiate between bacteria, viruses and fungi.	<ul style="list-style-type: none"> <li>Practical Sessions</li> </ul>	<ul style="list-style-type: none"> <li>Practical Exam</li> </ul>
3.0	<b>Values</b>		
None			

## 2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Mid-Term Exam	5 <sup>th</sup> week	15%
2	Activity	Throughout	5%
3	Lab report	Throughout	10%
4	Final Practical Exam	11 <sup>th</sup> week	20%
5	Final Exam	12 <sup>th</sup> /13 <sup>th</sup> week	50%
	<b>Total</b>		<b>100%</b>

\*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

## E. Student Academic Counseling and Support

### Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

- Course instructors are available for individual consultation in their free time. They are usually full-time permanent members present on-campus from 8:00 am to 2:30 pm on all working days. Appointments can be made in person with the instructor through email etc. Days and time availability of each instructor are posted on their doors. Course instructors provide a range of academic and course management advice including course planning and its progression.
- Each student at the department of Clinical Laboratory Sciences has an academic adviser who is available for individual consultation and guidance. Appointments can be made in person with the instructor through email etc. Days and time availability of each adviser are posted on their doors. The academic adviser can provide support with time management, exam preparation, clarification of subject requirements, feedback on performance and dealing with personal issues as well.

## F. Learning Resources and Facilities

### 1. Learning Resources

<b>Required Textbooks</b>	<ul style="list-style-type: none"><li>• Warren Levinson, Peter Chin-Honh, Elizabeth A. Joyce, Jesse Nussbaum and Brian Schwartz, Review of Medical Microbiology and Immunology, 2018, 15<sup>th</sup> edition, McGraw-Hill, ISBN: 978-1-259- 64449-8</li><li>• Cynthia Nau Cornelissen, Bruce D. Fisher and Richard A. Harvey, Lippincott's Illustrated Reviews: Microbiology, 2019, 4<sup>th</sup> edition, Lippincott Williams &amp; Wilkins, ISBN: 9781975118310</li></ul>
<b>Essential References Materials</b>	<ul style="list-style-type: none"><li>• G. Collee, A. G. Fraser, B. P. Marmion and A. Simmons, Mackie and McCartney Practical Medical Microbiology, 1996, 14<sup>th</sup> edition, Elsevier, ISBN 9788131203934</li></ul>
<b>Electronic Materials</b>	<ul style="list-style-type: none"><li>• Search Engines</li></ul>
<b>Other Learning Materials</b>	<ul style="list-style-type: none"><li>• None</li></ul>

## 2. Facilities Required

Item	Resources
<b>Accommodation</b> (Classrooms, laboratories, demonstration rooms/labs, etc.)	Classrooms and Laboratories
<b>Technology Resources</b> (AV, data show, Smart Board, software, etc.)	Data show, Blackboard and A/V
<b>Other Resources</b> (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	Microbiology Lab equipments including: Autoclave, Oven, Loops and Bunsen. In addition to, Staining Materials such as Gram Stain and Iodine.

## G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Student's feedback on effectiveness of teaching.	<ul style="list-style-type: none"> <li>Students</li> </ul>	<ul style="list-style-type: none"> <li><b>Indirect:</b> Questionnaire Survey at the end of each semester.</li> </ul>
Quality of learning resources (laboratory and library) related to each course.	<ul style="list-style-type: none"> <li>Students</li> <li>Staff members</li> </ul>	<ul style="list-style-type: none"> <li><b>Indirect:</b> Questionnaire Survey at the end of each semester related to learning resources.</li> </ul>
Evaluation of teaching	<ul style="list-style-type: none"> <li>Peer evaluators</li> </ul>	<ul style="list-style-type: none"> <li><b>Indirect:</b> Peer evaluation</li> </ul>
Evaluation of exam quality and assessment.	<ul style="list-style-type: none"> <li>Exam committee</li> <li>Students</li> </ul>	<ul style="list-style-type: none"> <li><b>Direct:</b> Exam paper/ exam blueprint review</li> <li><b>Indirect:</b> Questionnaire Survey at the end of each semester.</li> </ul>
Achievement of course learning outcomes	<ul style="list-style-type: none"> <li>Course Coordinators</li> <li>Development and accreditation committee</li> </ul>	<ul style="list-style-type: none"> <li><b>Direct:</b> Student's Performance assessed through item analysis and rubrics.</li> </ul>

**Evaluation areas** (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

**Evaluators** (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

**Assessment Methods** (Direct, Indirect)



## H. Specification Approval Data

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





## Course Specifications

<b>Course Title:</b>	<b>Medical Genetics</b>
<b>Course Code:</b>	<b>373216-3</b>
<b>Program:</b>	<b>Bachelor in Clinical Laboratory Sciences; Level-6 (Program Code: 373000)</b>
<b>Department:</b>	<b>Clinical Laboratory Sciences Department</b>
<b>College:</b>	<b>College of Applied Medical Sciences</b>
<b>Institution:</b>	<b>Taif University</b>

## Table of Contents

<b>A. Course Identification</b> .....	<b>3</b>
6. Mode of Instruction (mark all that apply) .....	3
7. Contact Hours (based on academic semester) .....	3
<b>B. Course Objectives and Learning Outcomes</b> .....	<b>3</b>
3. Course Learning Outcomes .....	5
<b>C. Course Content</b> .....	<b>4</b>
1. Theory .....	4
2. Practical.....	7
<b>D. Teaching and Assessment</b> .....	<b>5</b>
1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods .....	5
2. Assessment Tasks for Students .....	6
<b>E. Student Academic Counseling and Support</b> .....	<b>7</b>
<b>F. Learning Resources and Facilities</b> .....	<b>7</b>
1. Learning Resources .....	7
2. Facilities Required.....	8
<b>G. Course Quality Evaluation</b> .....	<b>8</b>
<b>H. Specification Approval Data</b> .....	<b>8</b>

## A. Course Identification

<b>1. Credit hours:</b> 3 Hours Theory
<b>2. Course type</b>
a. University <input type="checkbox"/> College <input type="checkbox"/> Department <input checked="" type="checkbox"/> Others <input type="checkbox"/>
b. Required <input checked="" type="checkbox"/> Elective <input type="checkbox"/>
<b>3. Level/year at which this course is offered:</b> 4 <sup>th</sup> Level/ Second Year
<b>4. Pre-requisites for this course (if any):</b> None
<b>5. Co-requisites for this course (if any):</b> None

## 6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	5 hours /week= 50 hours/semester	100%
2	Blended	None	0%
3	E-learning	None	0%
4	Distance learning	None	0%
5	Other (Laboratory)	None	0%

## 7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	Lecture	50
2	Laboratory/Studio	N/A
3	Tutorial	N/A
4	Others (specify)	NA
	<b>Total</b>	<b>50 Hours</b>

## B. Course Objectives and Learning Outcomes

### 1. Course Description

Recognize fundamentals of human genetics and genomics as applied to health and disease, understand the basic principles of genetics that underlie modern principles of diagnostic molecular biology and biotechnology identify the diverse applications of genetics and recognize the basis of laboratory tests used in screening and diagnosis of genetic disorders as well as premarital evaluation.

### 2. Course Main Objective

The purpose of this course is to allow students to develop an understanding of the structure and function of chromosomes, DNA, genes and their role in inheritance and disease states.

### 3. Course Learning Outcomes

CLOs		Aligned PLOs
1	<b>Knowledge and Understanding:</b>	
1.1	Describe DNA, genes and chromosomes; and role of mutations in disease process.	K1
1.2	Recognize the role of modern techniques of molecular genetics and their potential in clinical diagnosis.	K2
2	<b>Skills:</b>	
2.1	Apply subject-specific concepts and principles of genetics to inherited conditions.	S2
2.2	Analyze the information in a pedigree chart by applying the laws of inheritance.	S2
2.3	Employ proficient communication of concepts and information related to the field.	S4
3	<b>Values:</b>	
	None	

### C. Course Content

#### 1. Theory

No	List of Topics	Contact Hours
1	<b>Introduction of medical genetics: (Presentation)</b> <ul style="list-style-type: none"> <li>The role of Genetics in medicine</li> </ul>	5
2	<b>Overview of cell division (Presentation)</b> <ul style="list-style-type: none"> <li>Types and stages of cell division</li> <li>Meiosis and genetic diversity</li> </ul>	5
3	<b>Structure and organization of heredity materials (Presentation)</b> <ul style="list-style-type: none"> <li>Chromosome Structure</li> <li>Types of Chromosome</li> <li>DNA packaging and histone proteins</li> <li>DNA and RNA Structure</li> </ul>	5
4	<b>Gene expression: (Presentation)</b> <ul style="list-style-type: none"> <li>Gene structure and Organization</li> <li>DNA replication</li> <li>Transcription and posttranscriptional modifications</li> <li>Genetic code and Translation</li> </ul>	5
5	<b>DNA Mutation and its clinical correlation: (Presentation)</b> <ul style="list-style-type: none"> <li>Types of DNA mutations</li> <li>Effect of DNA mutation – single gene disorder</li> </ul>	5

No	List of Topics	Contact Hours
6	<b>Pattern of inheritance (Mendelian) I: (Presentation)</b> <ul style="list-style-type: none"> <li>Mendel's study of heredity, Alleles, gene, and trait,</li> <li>Mendelian principles in human genetics, Mendelian segregations</li> </ul>	5
7	<b>Pattern of inheritance (Mendelian) II: (Presentation)</b> <ul style="list-style-type: none"> <li>Autosomal dominant, Autosomal recessive and common related conditions</li> <li>X-linked inheritance and common related conditions</li> <li>Mitochondrial inheritance and common related conditions</li> </ul>	5
8	<b>Pedigree Analysis: (Presentation)</b> <ul style="list-style-type: none"> <li>Pedigree construction</li> <li>Risk assessment</li> <li>Genetic Counselling</li> </ul>	5
9	<b>Chromosomal abnormalities: (Presentation)</b> <ul style="list-style-type: none"> <li>Numerical chromosomal abnormalities and common related conditions.</li> <li>Structural chromosomal abnormalities and common related conditions</li> </ul>	5
10	<b>Cytogenetic Techniques: (Presentation)</b> <ul style="list-style-type: none"> <li>Prenatal Genetic Diagnosis</li> <li>Human Karyotyping</li> <li>Fluorescence in situ hybridization (FISH), Comparative genome hybridization (CGH)</li> </ul>	5
<b>Total</b>		<b>50</b>

## D. Teaching and Assessment

### 1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	<b>Knowledge and Understanding:</b>		
1.1	Describe DNA, genes and chromosomes; and role of mutations in disease process.	<ul style="list-style-type: none"> <li>Lectures</li> </ul>	<ul style="list-style-type: none"> <li>Written Exam</li> </ul>
1.2	Recognize the role of modern techniques of molecular genetics and their potential in clinical diagnosis.	<ul style="list-style-type: none"> <li>Lectures</li> </ul>	<ul style="list-style-type: none"> <li>Written Exam</li> </ul>

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
<b>2.0</b>	<b>Skills:</b>		
<b>2.1</b>	Apply subject-specific concepts and principles of genetics to inherited conditions.	<ul style="list-style-type: none"> <li>Lectures</li> </ul>	<ul style="list-style-type: none"> <li>Written Exam</li> </ul>
<b>2.2</b>	Analyze the information in a pedigree chart by applying the laws of inheritance.	<ul style="list-style-type: none"> <li>Lectures</li> </ul>	<ul style="list-style-type: none"> <li>Written Exam</li> </ul>
<b>2.3</b>	Employ proficient communication of concepts and information related to the field.	<ul style="list-style-type: none"> <li>Problem-Based Learning</li> <li>Group Discussion</li> </ul>	<ul style="list-style-type: none"> <li>Written Exam</li> <li>Scientific Activity</li> </ul>
<b>3.0</b>	<b>Values:</b>		
<b>None</b>			

## 2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Mid-Term Exam	5 <sup>th</sup> week	30%
2	Activities	Throughout	10%
3	Final Exam	12 <sup>th</sup> /13 <sup>th</sup> week	60%
<b>Total</b>			<b>100%</b>

\*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

## E. Student Academic Counseling and Support

### Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

- Course instructors are available for individual consultation in their free time. They are usually full-time permanent members present on-campus from 8:00 am to 2:30 pm on all working days. Appointments can be made in person with the instructor through email etc. Days and time availability of each instructor are posted on their doors. Course instructors provide a range of academic and course management advice including course planning and its progression.
- Each student at the department of Clinical Laboratory Sciences has an academic adviser who is available for individual consultation and guidance. Appointments can be made in person with the instructor through email etc. Days and time availability of each adviser are posted on their doors. The academic adviser can provide support with time management, exam preparation, clarification of subject requirements, feedback on performance and dealing with personal issues as well.

## F. Learning Resources and Facilities

### 1. Learning Resources

<b>Required Textbooks</b>	<ul style="list-style-type: none"><li>• Terry A. Brown, Genomes 3. (2006). 3rd edition. Garland Science:New York. 711p, ISBN: 978-0815341383</li><li>• Essential Medical Genetics (2011). 6th Edition, Edward S. Tobias, Connor Malcom Ferguson-Smith, Wiley-Blackwell Publishers. ISBN-13: 978-1405169745</li></ul>
<b>Essential References Materials</b>	<ul style="list-style-type: none"><li>• None</li></ul>
<b>Electronic Materials</b>	<ul style="list-style-type: none"><li>• <a href="https://ghr.nlm.nih.gov/chromosome">https://ghr.nlm.nih.gov/chromosome</a></li><li>• <a href="https://www.genome.gov/10000464/online-genetics-education-resources">https://www.genome.gov/10000464/online-genetics-education-resources</a></li></ul>
<b>Other Learning Materials</b>	<ul style="list-style-type: none"><li>• Journals, Scientific Magazines and Articles.</li></ul>

## 2. Facilities Required

Item	Resources
<b>Accommodation</b> (Classrooms, laboratories, demonstration rooms/labs, etc.)	Classrooms
<b>Technology Resources</b> (AV, data show, Smart Board, software, etc.)	Data Show, Blackboard and A/V
<b>Other Resources</b> (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	None

## G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Student's feedback on effectiveness of teaching.	<ul style="list-style-type: none"> <li>Students</li> </ul>	<ul style="list-style-type: none"> <li><b>Indirect:</b> Questionnaire Survey at the end of each semester.</li> </ul>
Quality of learning resources (laboratory and library) related to each course.	<ul style="list-style-type: none"> <li>Students</li> <li>Staff members</li> </ul>	<ul style="list-style-type: none"> <li><b>Indirect:</b> Questionnaire Survey at the end of each semester related to learning resources.</li> </ul>
Evaluation of teaching	<ul style="list-style-type: none"> <li>Peer evaluators</li> </ul>	<ul style="list-style-type: none"> <li><b>Indirect:</b> Peer evaluation</li> </ul>
Evaluation of exam quality and assessment.	<ul style="list-style-type: none"> <li>Exam committee</li> <li>Students</li> </ul>	<ul style="list-style-type: none"> <li><b>Direct:</b> Exam paper/ exam blueprint review</li> <li><b>Indirect:</b> Questionnaire Survey at the end of each semester.</li> </ul>
Achievement of course learning outcomes	<ul style="list-style-type: none"> <li>Course Coordinators</li> <li>Development and accreditation committee</li> </ul>	<ul style="list-style-type: none"> <li><b>Direct:</b> Student's Performance assessed through item analysis and rubrics.</li> </ul>

**Evaluation areas** (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

**Evaluators** (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

**Assessment Methods** (Direct, Indirect)



## H. Specification Approval Data

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