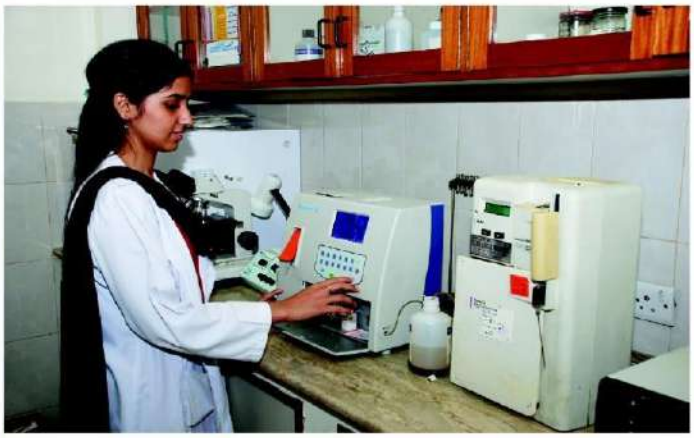
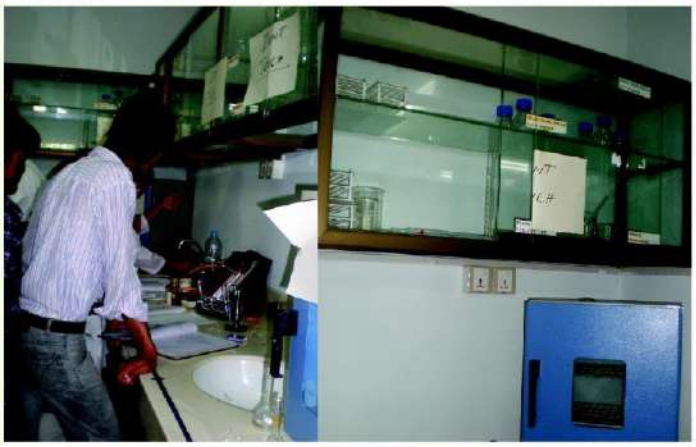


DOW UNIVERSITY OF HEALTH SCIENCES
D.U.H.S

Dow Institute of Medical Technology (DIMT)



ADMISSIONS in

Medical Technology (IMT)

Session 2022-2023

Prospectus

Email: admissions@duhs.edu.pk
visit website: www.duhs.edu.pk

Prof. Dr. Mohammad Saeed Quraishy
Vice Chancellor
Dow University of health Sciences

Message by Vice Chancellor

It gives me joy to write this message for the prospectus of the Dow University of Health Sciences, Karachi. DUHS was established in 2004, with just three constituent colleges, and today we are a university with over 30 constituent and affiliated institutions and the most comprehensive health system in Pakistan.

This year, I am also proud to announce that Dow University of Health Sciences, Karachi has continued to enhance the vision of this University by striving to be the pre-eminent academic institution committed to changing and saving lives, as we have continued to place in the QS World University Rankings 2021, with an overall Rank of 401-450. This is a credit to the faculty of DUHS, and their commitment to enhance the learning experience offered to our students that we have achieved progress and prosperity globally, particularly within Asia.

This is also the year we are celebrating our 75th Anniversary of the founding of Dow Medical College, a symbol of scholarship and service to the community that has evolved into DUHS, with expanded program offerings, such as in the fields of the allied health and biomedical sciences, such as pharmacy, physical therapy, medical technology, biotechnology, nursing, public health, business administration, and course in radiology technology, nutritional sciences, midwifery, and optometry.

Furthermore, our symbol of academic excellence is fortified by our adoption of the latest technology, and affordable state of the art healthcare offered, which informs the delivery of quality patient care at Dow University Hospital and our many affiliated healthcare centers and research and diagnostic laboratories. We stand committed to providing and creating a state-of-the-art infrastructure that fosters innovation, research and is evolving to meet the needs of the future, along with providing superior healthcare services today.

Today, we are striving to play a pivotal role in the early diagnosis and treatment of Covid-19 and in the future, I also stand committed to make Dow University of Health Sciences an empowered institution offering the best of the medical knowledge and quality health services.

I am confident that the doctors and health professionals of this institution will go on to contribute to this nation and serve globally with sincerity and ethics, in order to restore faith and humanity to the delivery of healthcare.

Good Luck to the incoming freshmen!

Prof. Dr. Muhammad Sameer Qureshi
MBBS, Ph.D (UK)
Principal (DIMT)

Message from the Principal *Dow Institute of Medical Technology*

With the blessings of Almighty Allah, Dow Institute of Medical Technology is dedicated to provide academic and technical education and produce highly skilled and motivated graduates since its inception in 2006.

The vision is to be a center of excellence to impart education, skilled based learning and research for allied health sciences. This Institute is offering BS medical Technology program of four years in five major disciplines namely; Clinical laboratory Sciences, Clinical Ophthalmic Technology, Perfusion Sciences, Respiratory and Critical care and surgical technology

Medical Technologists graduated from Dow Institute of medical Technology are educated and trained to impart their skills as a vital part of technical aspects in Allied Health care systems. The Alumni graduated from this Institute are serving by contributing to the development and application of latest technology to improve patient care not only at Nation al but also at International level. Lastly, I would emphasize that Dow Institute of Medical Technology is dedicated to produce Medical technologists, educated and trained to cope up with state-of-the-art advanced technology in Allied health Sciences with a promising scope in career.

VISION STATEMENT DUHS

Be an academic leader by generating creative, collaborative, contextual resources to improve health and education by all possible means

MISSION STATEMENT DUHS

To provide leadership in creating and imparting knowledge through excellence in research and education with the aim to provide cost effective, contextually relevant and quality community services through its faculty, staff and graduates, with continuous efforts for improvement through reflection and learning

OVERVIEW

The term 'Allied health Sciences' was popularized during the deliberations that led to the inception of the Allied Health Professions Personnel Training Act in 1967. The passage of this legislation brought about a new and radical concept of unifying all the various disciplines that comprise allied health into academic units with a single administration.'' (Association of Schools of Allied Professionals websitewww.duhs.edu.pk)

The definition may vary across countries and context, but generally it is considered distinct from Nursing, Medicine and Pharmacy. The Center for Health Profession, California reported that 60 percent of the total health work force comprises of Allied Health Professionals. In Pakistan Allied Health Professionals is also known as Medical Technology that is a vital part of the entire Health Care System. This professional field comprises the challenges and rewards of medicine and surgery, and deals with technical aspect of the same.

INSTITUTE OF MEDICAL TECHNOLOGY

Vision of the Chancellor to develop human resources in Allied Health disciplines transformed into reality in April 2005 with the inception of Dow Institute of Medical Technology (DIMT) in 2006 under the auspicious and dynamic guidance of Late Dr. Syed Sarwat Hassan. The Institute is one of its kinds where Bachelor of Science in four different technologies namely: Clinical Laboratory Sciences, Respiratory and Critical Care Technology, Surgical Technology and Clinical Ophthalmology Technology were started simultaneously. Later on programs for Occupational Therapy, Dental Hygiene and Dental Care Professional were introduced; which was followed by B.S program in Perfusion Sciences. The later three are being offered by their respective Institutes whereas, Perfusion Sciences along with the previous four is still being offered by Institute of Medical Technology.

ABOUT THE PROGRAM

The program focuses on the development of scholarly activities designed to develop and advance competencies in clinical skills, critical thinking, and evidence-based practices. Maintenance and practice of ethical standards as well as development of collaborative perspective toward education and proper management and persistent goal-oriented efforts, are also integral part of the program. The medical technology program at DUHS offers 4-year Bachelor of Sciences degree. During the first two years the program comprises of courses in basic medical sciences, communication skills, general education and concerned technical sciences. This is followed by courses in advanced clinical sciences, clinical practices and technical skills. Throughout the program the students are placed in various clinical settings to not only apply the knowledge acquired but also to polish their technical skills. Research is also an integral part of the curriculum and courses in Research Methodology and Biostatics followed by undergraduate research projects is a prerequisite for the successful completion of the program. Upon successful completion of bachelor's program DUHS offers six months of paid internship in the approved affiliated clinical sites.

Programs are offered in five different technologies:

- Clinical Laboratory Sciences
- Respiratory & Critical Care Technology
- Surgical Technology
- Clinical Ophthalmology Technology
- Perfusion Sciences

2.0. Number of Seats:

Programs are offered in five different technologies:

1. Clinical Laboratory Sciences 20 Seats
2. Respiratory & Critical Care Technology 20 Seats
3. Surgical Technology 20 Seats
4. Clinical Ophthalmology Technology 20 Seats
5. Perfusion Sciences 20 Seats

Eligibility Criteria :

- HSSC (Intermediate Science) Pre-Medical / A-Level or Equivalent, Min. 60% marks or equivalent duly certified by IBCC
- Candidate's Domicile of Sindh.

3) Fee Structure of BSIMT

Session 2022-23

FEE TYPE	BSMT
Admission Fee	45,000/-
Tuition Fee	130,210/-
Document Verification Charges	1,000/-
Total	**176,210/-**

*Above amounts are excluding govt. taxes. Taxes apply as per FBR rules
Transport Fee (Optional) Rs. 32,000/- per year.

RULES FOR THE PAYMENT OF FEE

Payorder of one year tuition fee (of the respective category) will have to be paid within one month after the start of 2nd, 3rd, 4th & Final year.

In case the fee is not submitted during the given specified time, late payment charges will be charged as follows:

First month after lapse of first month…….2.5 % of tuition fee
Second month …….5.0 % of tuition fee
Third month…….7.5 % of tuition fee
Fourth month……10 % of tuition fee

Fee of all categories may be increased by 10% every year.

AFTER FOUR MONTHS OF NON PAYMENT, THE SEAT IS LIABLE TO BE CANCELLED AND STUDENT WILL NOT BE ALLOWED TO APPEAR IN ANY EXAMINATION

Fee deposited is refundable as per the Refund policy guidelines of the DUHS.
Taxes will be applied as per the FBR rules.

Hostel and Transport fee will be valid till the last exam of the academic year.
Amounts stated in the fee vouchers are excluded of all Bank charges.
The Fee Structure may be revised by the university at any time during the course of the study, due to unavoidable circumstances.

CURRICULUM

COMPULSORY / BASIC SUBJECTS

Serial No	Course Name	Codes
1.	CHEMISTRY/ PHYSICS	NS-CHEM 201/ NS-PHYS 201
2.	BIOLOGY/ MATHEMATICS	NS-BIOL 202/NS-MATH 202
3.	PSYCHOLOGY	SC-PSY 102
4.	SOCIOLOGY	SC-SOC 103
5.	COMPUTER SKILLS	QR-CS 201
6.	BIOSTATISTICS	QR-BSTAT 203
7.	HISTORY	AH-HIS 102
8.	LANGUAGES	AH-LA-G 103/AH-LA-C 103/AH-LA-A 103
9.	ISLAMIAT/ETHICS	CC-ISL 201/CC-ETHIC 201
10.	PAKISTAN STUDIES	CC-PST 202
11.	ENGLISH FOUNDATION	GC-EN-F 101
12.	ENGLISH ADVANCE	GC-EN-A 202
13.	EXPOSITORY WRITING	GC-EN-E 303
14.	PHYSIOLOGY	BS-PIO 201
15.	ANATOMY	BS-ANAT 201
16.	BIOCHEMISTRY	BS-BCHEM 202
17.	MICROBIOLOGY AND INFECTION CONTROL	BS-MICRO 203
18.	PHARMACOLOGY	BS-PHARM 204
19.	RESEARCH METHODS AND PRINCIPLES	BS-RMP 305
20.	RESEARCH PROJECT	BS-RP 408

CURRICULUM

SURGICAL TECHNOLOGY

Serial No	Course Name	Course Code
1.	INTRODUCTION TO SURGICAL TECHNOLOGY	ST-INTRO 203
2.	OPERATING ROOM MANAGEMENT	ST-ORM 304
3.	SURGICAL INSTRUMENTS	ST-INS 305
4.	SURGICAL ANATOMY-I	ST-ANAT 314
5.	SURGICAL PHYSIOLOGY	ST-PIO 304
6.	SURGICAL TERMINOLOGY	ST-TERM 304
7.	SURGICAL TECHNOLOGY-CLINICAL PRACTICUM I	ST-CP 414
8.	APPLIED GENERAL SURGICAL PATHOPHYSIOLOGY-I	ST-PATH 315
9.	OPERATING ROOM PHYSICS	ST-PHYS 305
10.	PRE & POST-OPERATIVE MANAGEMENT	ST-PPMAN 305
11.	ASEPTIC TECHNIQUE AND INFECTION CONTROL	ST-ASTIC 306
12.	SURGICAL TECHNOLOGY-CLINICAL PRACTICUM II	ST- CP 425
13.	OR-PROCEDURE-I	ST-PROCD 316
14.	SURGICAL ANATOMY-II	ST-ANAT 326
15.	WOUND MANAGEMENT	ST-WONM306
16.	APPLIED GENERAL SURGICAL PATHOPHYSIOLOGY-II	ST- PATH 326
17.	SURGICAL TECHNOLOGY-CLINICAL PRACTICUM III	ST- CP 436
18.	OR-PROCEDURE-II	ST-PROCD 327
19.	SURGICAL PHARMACOLOGY AND ANESTHESIA	ST-PHARM 307
20.	CLINICAL DIAGNOSTICS IN SURGERY	ST-DIAG 307
21.	ARTIFICIAL INTELLIGENCE AND ROBOTICS IN SURGERY	ST-AIRS 207
22.	SURGICAL TECHNOLOGY-CLINICAL PRACTICUM IV	ST- CP 447
23.	OR PROCEDURES III	ST-PROCD 338
24.	STEREOTACTIC RADIOSURGERY	ST-SRS 208
25.	SURGICAL TECHNOLOGY-CLINICAL PRACTICUM V	ST- CP 458
26.	SURGICAL TECHNOLOGY-CLINICAL PRACTICUM VI	ST- CP 468

CURRICULUM

RESPIRATORY AND CRTICIAL CARE TECHNOLOGY

Serial No	Course Name	Course Code
1.	INTRODUCTION TO CRITICAL CARE -I	RCC-ICC 213
2.	CARDIOPULMONARY PHYSIOLOGY	RCC-CPP 204
3.	INTRODUCTION TO CRITICAL CARE-II	RCC-ICC 324
4.	RESPIRATORY AND CRITICAL CARE MEDICAL TERMINOLOGY	RCC-RCCMT 204
5.	DIAGNOSTICS IN CRITICAL CARE-I	RCC-DCC 314
6.	APPLIED CARDIOPULMONARY PATHOPHYSIOLOGY -I	RCC-ACPP 215
7.	DIAGNOSTICS IN CRITICAL CARE-II	RCC-DCC 425
8.	INVASIVE AND NON-INVASIVE MECHANICAL VENTILATION-I	RCC-MV 315
9.	RESPIRATORY AND CRITICAL CARE TECHNOLOGY CLINICAL PRACTICUM-I	RCC-CP 415
10.	APPLIED CARDIOPULMONARY PATHOPHYSIOLOGY-II	RCC-ACPP 326
11.	INVASIVE AND NON-INVASIVE MECHANICAL VENTILATION-II	RCC-MV 426
12.	PHYSICAL PRINCIPLES AND TECHNIQUES IN RESPIRATORY AND CRITICAL CARE	RCC-PPTRC 306
13.	PROCEDURES AND THERAPEUTIC INTERVENTION I	RCC-PTI 316
14.	DRUG THERAPY IN CRITICAL CARE	RCC-DTCC 306
15.	NEONATAL AND PEDIATRIC RESPIRATORY CARE	RCC-NPRC 307
16.	PROCEDURES AND THERAPEUTIC INTERVENTION II	RCC-PTI 427
17.	CARDIOPULMONARY REHABILITATION	RCC-CPR 307
18.	RESPIRATORY AND CRITICAL CARE TECHNOLOGY CLINICAL PRACTICUM-II	RCC-CP 427
19.	ADVANCED RESPIRATORY AND CRITICAL CARE	RCC-ARCC 408
20.	HEALTH AND HOSPITAL MANAGEMENT	RCC-HHM 308
21.	RESPIRATORY AND CRITICAL CARE TECHNOLOGY CLINICAL PRACTICUM-III	RCC-CP 438

CURRICULUM

C L I N I C A L O P H T H A L M IC T E C H N O L O G Y

Serial No	Course Name	Course Code
1.	FUNDAMENTALS OF OPHTHALMIC TECHNOLOGY	OP-FOP 203
2.	OCULAR MEDICAL TERMINOLOGY AND PROCEDURE NAMES	OP-OCT 204
3.	OCULAR ANATOMY AND PHYSIOLOGY-I	OP-OAP 214
4.	COMMUNITY EYE CARE-I	OP-CEC 214
5.	DIAGNOSIS AND MANAGEMENT OF COMMON EYE DISORDERS-I	OP-CED 214
6.	OPHTHALMIC PHARMACOLOGY	OP-PHARM 305
7.	ADVANCE REFRACTION TECHNIQUES	OP-ART 305
8.	DISPENSING OPTICS AND CONTACT LENSES-I	OP-OCL 215
9.	CLINICAL OPHTHALMIC TECHNOLOGY- CLINICAL PRACTICUM I	OP-CP 415
10.	ADVANCE COMMUNITY EYE CARE-II	OP-CEC 326
11.	DIAGNOSIS AND MANAGEMENT OF COMMON EYE DISORDERS-II	OP-CED 326
12.	OCULAR PHYSIOLOGY-II	OP-OPH-326
13.	BASIC AND ADVANCE VISUAL FUNCTION	OP-VF 306
14.	CLINICAL OPTICS AND CONTACT LENSES-II	OP-OCL 326
15.	CLINICAL OPHTHALMIC TECHNOLOGY- CLINICAL PRACTICUM II	OP-CP 426
16.	DIAGNOSIS AND MANAGEMENT OF COMMON EYE DISORDERS-III	OP-CED 437
17.	BINOCULAR SINGLE VISION AND ITS CLINICAL APPLICATION	OP-BSV 307
18.	CLINICAL OPHTHALMIC TECHNOLOGY- CLINICAL PRACTICUM III	OP-CP 437
19.	HEALTH AND EYE CARE MANAGEMENT	OP-ECM 408
20.	CLINICAL OPHTHALMIC TECHNOLOGY- CLINICAL PRACTICUM IV	OP-CP 448

CURRICULUM
PERFUSION SCIENCES

Serial No	Course Name	Course Code
1.	INTRODUCTION TO PERFUSION TECHNOLOGY	PS-INTRO 203
2.	CARDIOVASCULAR ANATOMY	PS-CVA 304
3.	CARDIOVASCULAR PHYSIOLOGY	PS-CVP 304
4.	PERFUSION MODULE	PS-PM 404
5.	OPERATION ROOM STANDARDS	PS-ORS 204
6.	DIAGNOSTIC TECHNIQUES IN PERFUSION SCIENCES	PS-DIAG 305
7.	PATHOPHYSIOLOGY & SURGICAL REPAIR - I	PS-PSR 316
8.	PERFUSION HEMATOLOGY	PS-HEM 305
9.	SPECIAL EQUIPMENT IN PERFUSION SCIENCES	PS-SEP 406
10.	PERFUSION PHARMACOLOGY	PS-PHARM 305
11.	MONITORING OF CARDIOPULMONARY BYPASS	PS-MCPB 406
12.	BLOOD CONSERVATION IN PERFUSION	PS-BCP 406
13.	PEDIATRIC CARDIOPULMONARY BYPASS	PS-PCPB 407
14.	PATHOPHYSIOLOGY & SURGICAL REPAIR – II	PS-PSR 427
15.	EXTRACORPOREAL MEMBRANE OXYGENATION	PS-ECMO 407
16.	NON CARDIAC SURGICAL APPLICATION	PS-NCSA 407
17.	HEALTH CARE MANAGEMENT	PS-HCM 308
18.	ANESTHESIA MANAGEMENT IN CARDIOPULMONARY BYPASS	PS-ANCPB 408
19.	PERFUSION SCIENCES CLINICAL PRACTICUM I	PS-CP 414
20.	PERFUSION SCIENCES CLINICAL PRACTICUM II	PS-CP 425
21.	PERFUSION SCIENCES CLINICAL PRACTICUM III	PS-CP 436
22.	PERFUSION SCIENCES CLINICAL PRACTICUM IV	PS-CP 447
23.	PERFUSION SCIENCES CLINICAL PRACTICUM V	PS-CP 458

CURRICULUM

C L I N I C A L L A B O R A T O R Y S C I E N C E S

Serial No	Course Name	Course Code
1.	INTRODUCTION TO CLINICAL LABORATORY SCIENCES	CLS-INTRO 203
2.	HISTOPATHOLOGY I	CLS-HISTO 314
3.	HEMATOLOGY I	CLS-HEM 314
4.	LABORATORY MATHEMATICS	CLS-LMATH 304
5.	CLINICAL CHEMISTRY I	CLS-CCHEM 314
6.	CLINICAL LABORATORY SCIENCES-CLINICAL PRACTICUM I	CLS-CP 414
7.	QUALITY ASSURANCE AND CONTROL	CLS-QAC 305
8.	HEMATOLOGY II	CLS-HEM 425
9.	IMMUNOLOGY AND SEROLOGY	CLS-IMS 305
10.	MOLECULAR BIOLOGY AND TECHNIQUES I	CLS-MBT 315
11.	CLINICAL LABORATORY SCIENCES-CLINICAL PRACTICUM II	CLS-CP 425
12.	DIAGNOSTIC MICROBIOLOGY I	CLS-DM 316
13.	TRANSFUSION MEDICINE	CLS-TM 407
14.	CLINICAL CHEMISTRY II	CLS-CCHEM 426
15.	BODY FLUID ANALYSIS	CLS-BFA 406
16.	HISTOPATHOLOGY II	CLS-HISTO 426
17.	CLINICAL LABORATORY SCIENCES-CLINICAL PRACTICUM III	CLS-CP 436
18.	DIAGNOSTIC MICROBIOLOGY II	CLS-DM 427
19.	MOLECULAR BIOLOGY AND TECHNIQUES II	CLS-MBT 427
20.	BIOINFORMATICS	CLS-BINF 207
21.	CLINICAL LABORATORY SCIENCES-CLINICAL PRACTICUM IV	CLS-CP 447
22.	LABORATORY MANAGEMENT	CLS-LM 208
23.	CLINICAL LABORATORY SCIENCES-CLINICAL PRACTICUM V	CLS-CP 458

GRADE/GPA REQUIREMENT FOR EACH SEMESTER & GRADUATION

All courses are continuously assessed during the semester through quiz, assignment, Oral Presentation, Midterm Examination, Post Viva Rotation and Final Examination. Grading is absolute, not relative grading. Percentages are converted in GPA and their respective grades as follows;

GRADE	PERCENTAGE	GPA
A+	80% to 100 %	4.0
A	75%to 79 %	4.0
A-	70%to 74 %	3.7
B+	67%to 69 %	3.3
B	60%to 66 %	3.0
C+	56%to 59 %	2.9
C	50%to 55 %	2.0
F	(< 50 %) Fail ..below	2.00

Fractional Grade Point Average will be calculated according to approved rules

ASSESSMENT METHODS

EXAMS EVALUATION	
Terminal Examination – BCQ's	70%
Mid Term Examination – BCQ/MCQ	15%
INTERNAL EVALUATION (*VivaVoce, Presentation, Assignment, Quizzes, Workshops, Attendance)*	15%
CLINICAL PRACTICUM / ROTATIONS	
EXAMS EVALUATION *(conducted by HODs of respective departments)* *VIVA/ SHORT QUESTIONS*	60%
INTERNAL EVALUATION *(Structured VIVA by internal faculty of DIMT)*	40%

ASSESSMENT METHODS (For Online Teaching)

EXAMS EVALUATION	
Terminal Examination – BCQ's	40%
Mid Term Examination – BCQ/MCQ	20%
INTERNAL EVALUATION (*VivaVoce, Presentation, Assignment, Quizzes, Workshops, Attendance)*	40%
CLINICAL PRACTICUM / ROTATIONS	
EXAMS EVALUATION *PROJECTS/PRESENTATIONS/DEMONSTRATIONS/VIVA/VIDEO PRESENTATIONS/CASE STUDIES*	100%

FACILITIES

SKILL'S LAB

The state of art skill's lab is established at the Institute of Medical Technology with latest and sophisticated models and full line of medical equipment under supervision of experienced medical technologist.

Before clinical training at affiliated hospitals every student receives extensive hands on training in relevant skills in the skill's lab under supervision of faculty. Respiratory & Critical care technology students are trained at Professional DC skills lab.

COMPUTER LAB

The Computer lab with 45 latest systems is fully operational. The computer lab offers following facilities.

i. *Computer Courses: Interactive lectures on basic computer skills such as MS- Word, Excel, PowerPoint, MS- Outlook express.*

ii. *Internet Facility: We give our students better chance to browse Medical Information, Current Updates, Research Articles or Concerned Topics.*

iii. *Hands-on Training: Students are given opportunity to apply their skills and thereby receive hands-on training and learn extensively to the best of their ability.*

iv. *Multimedia: Presentations and lectures are delivered through latest audiovisual aid.*

v. *Internet Training: Internet training is being given to the students in terms of sharing documents, protecting them online, difference between Intranet and Internet etc.*

EXTRA-CURRICULAR ACTIVITIES

- *2nd International Surgical technologists symposium, October, 2022*
- *1st International Surgical technologists symposium, November, 2021*
- *Health Asia Expo.*
- *Annual Sports Week*
- *Annual DIMT Picnic.*
- *Poster Competition*
- *DUHS Independence Day Celebration*
- *Initiated Flood Relief Camp*
- *Walk through Inauguration of Ophthalmic Technology Lab by Prof. Dr. M. Umar Farooq (Pro-Vice Chancellor DUHS)*
- *World surgical technologists day*
- *Independence day celebration*
- *Defense day celebration*
- *7th Annual Research day*
- *Surgical technologists day*
- *RCCT awareness day*
- *Farewell Party & Welcome Party*
- *DUHS-DICE Exhibition*
- *Community Services*
- *Health Camps*

FUTURE PROSPECTS

CLINICAL LABORATORY SCIENCES

Clinical laboratory technologists seek their career opportunities in clinical laboratories at hospitals; doctor's /physician's offices, reference and private laboratories Clinical Laboratory Technologists are an integral part of Clinical and Research laboratories.

SURGICAL TECHNOLOGY

A Surgical Technologist is expected to always anticipate the needs of the supervising surgeon and to provide quality patient care with a special focus on safety and efficiency. With advancing experience they can specialize in progressively more demanding, and more difficult medical specialties e.g. neurosurgery, orthopedic and cardiac surgery and furthermore; they can specialize to become surgical first assistant or circulating surgical technologists. According to the Bureau of Labor Statistics, the circulator helps interview the patient before and after surgery and may also assist with anesthesia. Professional scope includes: Outpatient clinics (for physicians and dentists), Ambulatory surgical centers (places that perform same/day care surgeries), Special mobile surgical teams and Private physician practices, surgical marketing units, research and development industries. Employment opportunities for surgical technologists can include: Hospitals, private clinics, R&D Institutions, Surgical Marketing Units, Post graduate Institutions, Managerial roles.

RESPIRATORY AND CRITICAL CARE TECHNOLOGY

Although Respiratory and Critical Care Technologists practice under the supervision of a physician, they are required to exercise considerable independent judgment in providing respiratory therapy to patients. They can advance the practice of respiratory therapy by doing research and creating clinical practice guidelines.

About 75% of respiratory therapists are employed in acute care Units in hospitals (ICU, ER, OR, Neonatal nurseries and general wards) and some of them find employment in diagnostic laboratories, sleep disorder centers, rehabilitation, long-term acute care and skilled nursing facilities, patients' homes, patient transport systems, physician offices, convalescent and

retirement centers, educational institutions and wellness centers. They can fill managerial and administrative positions and work in different types of jobs in private industries such as sales, service and clinical support.

OPHTHALMIC TECHNOLOGIST

Ophthalmic medical technologists can pursue their careers in a variety of supervised clinical settings such as private offices of Ophthalmologists, group practices, hospital specialty clinics and university clinics. Since, they are highly-skilled technical personnel in the field; many can assume supervisory roles and teach other members of the allied health team. With additional training, an ophthalmic technologist may become an orthoptist specializing in the evaluation of patients with Squints and related muscle imbalances of the eye. Some individuals continue their education to become, ophthalmologists, or other high paying career.

PERFUSIONISTS

Perfusionists usually work in hospitals affiliated with large medical centers and as a chief perfusionist generally directs a perfusion team. Additional scope of practice includes blood conservation, long term support for respiratory failure, and isolated limb perfusion for the treatment of malignant tumors.

Allied health professionals are usually at the forefront of research and innovations so that patients are continually receiving the very best healthcare. For example, in clinical perfusion sciences, staff could be investigating how less invasive surgical procedures of the heart impact on their work, or analyzing how their practices should differ when open heart surgery is performed on children rather than adult patients. Therefore, they may also work in educational institutions as teachers or researchers.

RESEARCH AND DEVELOPMENT AT DOW INSTITUTE OF MEDICAL TECHNOLOGY

Dow Institute of Medical Technology holds the honor to publish scientific work nationally and internationally. Here are some most recent scientific publications (2021-2022) from the faculty of Dow Institute of Medical Technology:

1. Majeed U, Aftab MF, Baloch DM, Ahmed S, Yusuf IM, Hasan MA, Qureshi MS. Modulation of Heart and Brain Function by Surah Al-Rehman Recitation Among Distressed Diabetic Patients in Pakistan. J Relig Health. 2022 Oct;61(5):3852-3865. doi: 10.1007/s10943-021-01431-2. Epub 2021 Sep 23. PMID: 34554380.

2. Muhammad, Nizamuddin & Hussain, Mehwish & Adnan, Syed. (2021). Screen time and Sleep Quality among College and University Students of Karachi. Journal of Health & Biological Sciences. 9. 1. 10.12662/2317-3076jhbs.v9i1.3214.p1-14.2021.

3. Noor R, Shahid F, Hydrie MZ, Imran M, Shah SH. Factors influencing birth preparedness and complication readiness among childbearing age women in Thatta district, Sindh. PloS one. 2022 Sep 29;17(9):e0275243.

4. Talat Roome, Maha Qasim, Sabahat Aziz, Ahsana Dar Farooq, Anam Razzak, Syed Farooq Ali, . Assessment of acute, sub-acute, chronic and genotoxicity of polyherbal formulation DCD-684 in mice. Pak. J. Pharm. Sci., Vol.34, No.4 (Suppl), July 2021, pp.1485-1498

5. Talat Roome, Maha Qasim, Ahsana Dar Farooq, Qibtiya Ilyas, Sabahat Aziz, Syed Farooq Ali. Antispasmodic activity and mechanism of action of polyherbal formulation DCD-684 on rabbit jejunum Pak. J. Pharm. Sci., Vol. 34, No.2 (Suppl), March 2021, pp.711-722

6. Hanif F, Washdev W, Bilwani F, Simjee SU, Haque Z. A Novel Variant in Dopamine Receptor Type 2 Gene is Associated with Schizophrenia. Archives of Medical Research. 2021 Apr 1;52(3):348-53.

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