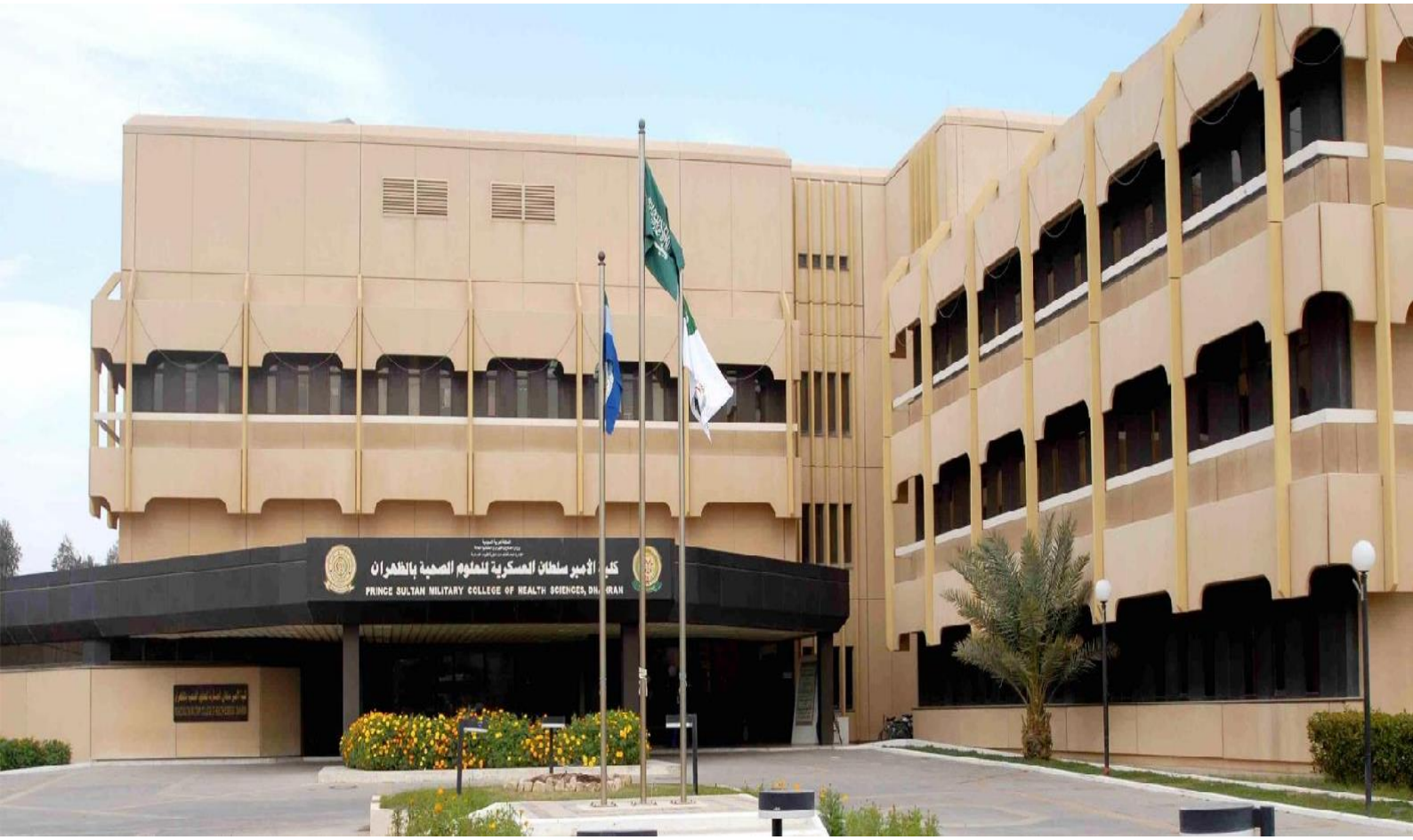
Student's Handbook



Biomedical Technology Department
Bachelor Degree Program

1. Introduction

1.1. Department History:

The College was established by the General Directorate of Medical Services of the Armed Forces of the Ministry of Defense. His Royal Highness Prince Sultan bin Abdulaziz Al Saud, may Allah have mercy on him, inaugurated the College on 16 Saphar 1409, corresponding to September 27, 1988. The field of health care was also approved by the Ministry of Higher Education.

The programs were designed to provide students with the opportunity to acquire sound theoretical and scientific knowledge in the clinical field. The College seeks to meet the growing demand of medical services for health science graduates to cover Hospitals of Medical Services of the Armed Forces with Saudi workers in the Kingdom. The Kingdom of Saudi Arabia has an increasing demand for medical services in both government and private sectors. As an integral part of the Prince Sultan Military College of Health Sciences (PSMCHS) the program would provide high quality specialist education with crucial learning skills to enable graduates to carry out various specialist services in health-care facilities and participate in sustainable development of the society through their professional, technical, communication and team-work competencies. BMT program reflects the increasing importance of the field of Biomedical Technology in the development plans of the Kingdom of Saudi Arabia. It focuses on career and professional accomplishments of the graduates that includes the major jobs that graduates are prepared to do, professional contributions, professional developments, and caring and serving society. Graduates will contribute to the future health and wellbeing of patients in the country with their professional practice in securing, maintaining and improving healthcare equipment.

The BMT study program is designed in a way that provides comprehensive and interdisciplinary education in biomedical technology field, which helps graduates to contribute to the contemporary challenges in the local community. Likewise, the program will graduate students ready to be competent and competitive in this field

within the region as well as worldwide. Diverse, qualified and devoted academic staff of the program have paved
the way for teaching and research excellence, enabling the College to be a prospective leader in education and research in the region. In addition, the program has acquired necessary milestones for being a hub between academia and the industry at local and regional perspective. Complying with PSMCHS vision and mission, the BMT program adds values to the College by fulfilling its strategic goals and objectives.

1.2. Mission:

The Biomedical Technology program is dedicated to preparing biomedical technology specialists with the necessary competencies while serving the community as well as participating in research.

1.3. Vision:

The Biomedical Technology program at the Prince Sultan Military College of Health Sciences is to become leading biomedical technology program in the Kingdom with highest international standards in the field of study.

1.4. Goals:

1. Promote lifelong learning and professional development opportunities for graduates.
2. Provide outstanding educational environment
3. Serving the community
4. Continuous improvement of educational standards.
5. Foster scientific research

1.5. Objectives:

1. Develop highly skilled and competent biomedical technology specialists
2. Cultivate a learning environment that encourages personal and professional growth

3. Engage in community partnerships to address local healthcare needs and promote the application of biomedical technology for the betterment of society
4. Continuously enhance the program's curriculum, teaching methodologies, and assessment strategies to maintain the highest standards of educational quality
5. Encourage student and faculty involvement in innovative scientific research, fostering collaborations within and outside the College to advance the field of biomedical technology

1.1. Values:

Excellence, critical thinking, integrity, diversity, innovation, teamwork, autonomy.

2. Career Outlook

Our graduates have the skills to integrate principles of engineering, biology, human physiology, chemistry, calculus-based physics and statistics to biomedical technology. Therefore, career paths for our graduates spread over various fields and some of them are as follows:

- Biomedical specialist, engineer
- Medical Equipment Control Management
- Clinical Engineering
- Quality Control
- Safety Officers
- Maintenance
- Sales and marketing of biomedical equipment
- Call center management
- Academic careers
- Research and development of new equipment and prosthetic

3. Facilities, Laboratories, and the Library

Biomedical technology department has 4 labs that are used throughout study cycle. These labs are equipped with the state-of-the-art equipment used for various training purposes. One of these is biomedical laboratory with equipment equivalent or same to the one used in hospitals daily. It comprises of training sets such as ECG, incubator, dialysis and other medical equipment that we might find in hospitals. The College has common simulation center which is used by our program and other departments as well, when needed.

The College library is a place for all students and staff to find the needed references among large collection of books, medical journals and research for our program as well as other programs. Library premises are part of the main building and are easily accessible to everyone interested. There are two parts of the library, Main Library accessible to all students and staff and Annex library which is devoted to female students and all staff. Working hours of those libraries are as follows:

Main Library Working Hours:

- Sun. - Thu. : 7:30 AM - 10:25 AM (Male)
- Sun. - Thu. : 10:30 AM - 02:25 PM (Female)
- Sun. - Thu. : 02:30 PM - 04:00 PM (Male)
- Friday-Saturday and Holidays: Closed

Annex Library (Female) Working Hours:

- Sun. - Thu. : 7:30 AM - 03:30 PM
- Lunch Break: 12:00 PM - 01:00 PM (Female)
- Friday-Saturday and Holidays: Closed

Services in the library are provided by specialized and well-trained staff. Library collection comprises of 8430 titles with 17,575 copies, more than 24 printed journals and more than 257 e-Journals (Open Access) covering medicine and life sciences. Recently the College, through MSD, acquired access to Saudi Digital Library that increased number of journals and references library could offer to the students as well as faculty members. Library is also offering E-Library services where students and staff are enabled to use library services through online access.

The classrooms are equipped with up-to-date audio-visual and other educational facilities.

One of the most important departments for students, the registration, is located at the ground floor of the main building. Students are advised to visit them for any issue that could not be solved by their respective academic advisor.

Academic advisory for each student will be assigned so students would be under academic guidance throughout their study. Any inquiry or problem student face in their study could be referred to academic advising. On the other hand, students with poor academic results, attendance or any problems would be referred to their academic advisor.

The BMT Instructors' offices are located near to the male student dormitory, building 82. Office hours of BMT staff will be displayed on the door of each faculty. If you need any help from a specific instructor, you can contact him to see other times he will be available outside the office hours.

4. Academic Regulations

4.1. Admission Requirements

All applicants to the Bachelor of biomedical Technology Program must meet the following criteria:

1. Student must be a Saudi national.
2. Student must finish the higher School (Science) with not less than 85%.
3. Student should achieve the required score (70% SAT 1 and 65% SAT 2) of the National QIYAS Examination.
4. Student must be a recent graduate (within three years prior to applying).
5. Student must be younger than 23 years.
6. Student must be fulltime students.
7. Student must be physically fit.
8. Student must not have been dismissed from any College or any other institution for any academic or disciplinary reasons.
9. Student must be of good moral conduct and behavior.
10. Student must pass a personal interview as specified by the College Council.

4.2. Study plan

The BMT Program operates on Semester Credit Hour (SCH) system with courses distributed between 16 weeks semester twice in each academic year, plus a summer session, if needed, of 8 weeks. Certain courses in the curriculum are designated as prerequisites and co requisites for subsequent courses. A student may not enroll in a next course if he has failed the prerequisite and subsequently that course has been passed. For more information, please see Student guidebook:

4.2.1. Bachelor Program Study Plan

4.2.1.1. 1st Year Study

4.2.1.1.1. Semester I (Level One)

CODE	COURSE TITLE	Level	SCH	Contact Hours				SCH	Pre-Requisite
			FORMAT	L	P	C	Total		
ENG 108	English Language I	1	7 (7,0,0)	21	0	0	21	7	-
MATH 101	***Mathematics I	1	3 (3,0,0)	3	0	0	3	3	-
COM 100	***Computer Studies I	1	3 (1,2,0)	1	4	0	5	3	-
SDS 100	***Self-Development Skills	1	3 (3,0,0)	3	0	0	3	3	-
FPE 101	*** Fitness & Physical Education	1	1 (0,3,0)	0	3	0	3	1	-
	Total Hours/Week		**17 (14+5+0)**	**28**	**7**	**0**	**35**	**17**	
	Total Hours/Semester						**560**		

4.2.1.1.2. Semester II (Level Two)

CODE	COURSE TITLE	Level	SCH	Contact Hours				SCH	Pre-Requisite
			FORMAT	L	P	C	Total		
ENG 109	English Language II	2	5 (5,0,0)	15	0	0	15	5	ENG 108
BIOL 101	Biology I	2	4 (3,1,0)	3	2	0	5	4	-
CHEM 101	Chemistry I	2	4 (3,1,0)	3	2	0	5	4	-
PHYS 101	***Physics I	2	4 (3,1,0)	3	2	0	5	4	-
IST 100	***Islamic Studies I	2	2 (2,0,0)	2	0	0	2	2	
	Total Hours/Week		**19 (16+3+0)**	**26**	**6**	**0**	**32**	**19**	
	Total Hours/Semester						**512**		

4.2.1.2. 2nd Year Study

4.2.1.2.1. Semester I (Level Three)

CODE	COURSE TITLE	Level	SCH	Contact Hours				SCH	Pre-Requisite
			FORMAT	L	P	C	Total		
ENG 230	English Academic Writing	3	2 (2+0+0)	6	0	0	6	2	
MATH231	Applied Mathematics	3	2 (2+0+0)	2	0	0	2	2	-
ANP 201	Anatomy and Physiology	3	4 (3+1+0)	3	2	0	5	4	-
BMT233	Medical Ethics & Patient Care	3	2 (2+0+0)	2	0	0	2	2	-
BMT246	Electric Circuits	3	4 (3+1+0)	3	3	0	6	4	MATH101
IST200	Islamic studies II	3	2 (2+0+0)	2	0	0	2	2	IST200
HIS111	Medical Terminology	3	2 (2+0+0)	2	0	0	2	2	-
	Total Hours/Week		**18 (16+2+0)**	**20**	**5**	**0**	**25**	**18**	
	Total Hours/Semester						**400**		

4.2.1.2.2. Semester II (Level Four)

CODE	COURSE TITLE	Level	SCH	Contact Hours				SCH	Pre-Requisite
			FORMAT	L	P	C	Total		
BMT234	Introduction to Biomaterials	4	3 (3+0+0)	3	0	0	3	3	-
BMT354	Analog Electronics in Biomedical Technology	4	3 (2+1+0)	2	3	0	5	3	BMT246
PHYS203	Applied Physics	4	4 (3+1+0)	3	3	0	6	4	PHYS101
PSY203	Psychology for healthcare professional	4	2 (2+0+0)	2	0	0	2	2	
IST201	Islamic studies III	4	2 (2+0+0)	2	0	0	2	2	
ARB 213	Arabic Studies I	4	2 (2+0+0)	2	0	0	2	2	-
	Total Hours/Week		**16 (14+2+0)**	**14**	**6**	**0**	**20**	**16**	
	Total Hours/Semester						**320**		

4.2.1.3. 3rd Year Study

4.2.1.3.1. Semester I (Level 5)

CODE	COURSE TITLE	Level	SCH	Contact Hours				SCH	Pre-Requisite
			FORMAT	L	P	C	Total		
BMT352	Biomedical Measurements	5	3 (2+1+0)	2	3	0	5	3	BMT246
BMT356	Electric skills	5	2 (1+1+0)	1	2	0	3	2	BMT354
BMT355	Fundamentals of Biomedical Instrumentation	5	3 (2+1+0)	2	3	0	5	3	BMT246
BST312	Biostatistics	5	2 (2+0+0)	2	0	0	2	2	-
BMT361	Digital Electronic Circuits	5	3 (2+1+0)	2	3	0	5	3	BMT354
ARB 214	Arabic Studies II	5	2 (2+0+0)	2	0	0	2	2	-
IST300	Islamic studies IV	5	2 (2+0+0)	2	0	0	2	2	
	Total Hours/Week		**17 (13+4+0)**	**13**	**11**	**0**	**24**	**17**	
	Total Hours/Semester						**384**		

4.2.1.3.2. Semester II (Level 6)

CODE	COURSE TITLE	Level	SCH	Contact Hours				SCH	Pre-Requisite
			FORMAT	L	P	C	Total		
BMT360	Networking and Healthcare Informatics	6	2 (2+0+0)	2	0	0	2	2	
BMT362	Optical Biomedical Instrumentation	6	3 (2+1+0)	2	3	0	5	3	PHYS203
BMT363	Biomechanics	6	3 (2+1+0)	2	3	0	5	3	-
BMT366	Biopotentials	6	3 (2+1+0)	2	3	0	5	3	
BMT367	Biomedical Signal Processing 1	6	3 (2+1+0)	2	3	0	5	3	BMT246
BMT 475	Maintenance Management	6	2 (2+0+0)	2	0	0	2	2	-
RM320	Research Methodology	6	2 (2+0+0)	2	0	0	2	2	BST312
	Total Hours/Week		**18 (14+4+0)**	**14**	**12**	**0**	**26**	**18**	
	Total Hours/Semester						**416**		

4.2.1.4. 4th Year Study

4.2.1.4.1. Semester I (Level Seven)

CODE	COURSE TITLE	Level	SCH	Contact Hours				SCH	Pre-Requisite
			FORMAT	L	P	C	Total		
BMT471	Hospital safety	7	2 (1+1+0)	1	2	0	3	2	
BMT472	Biomedical Microprocessor & Microcontroller Applications	7	3 (2+1+0)	2	3	0	5	3	-
BMT473	Tissue Technology	7	3 (3+0+0)	3	0	0	3	3	ANP201
BMT482	Biomedical Computing	8	3 (2+1+0)	2	3	0	5	3	-
BMT474	Biomedical Instrumentation	7	4 (3+1+0)	3	3	0	6	4	BMT355
BMT476	Medical Imaging I	7	3 (2+1+0)	2	3	0	5	3	BMT367
	Total Hours/Week		**18 (13+5+0)**	**13**	**14**	**0**	**27**	**18**	
	Total Hours/Semester						**432**		

4.2.1.4.2. Semester II (Level Eight)

CODE	COURSE TITLE	Level	SCH	Contact Hours				SCH	Pre-Requisite
			FORMAT	L	P	C	Total		
BMT481	Special Topics in Biomedical Technology	8	2 (2+0+0)	2	0	0	2	2	
BMT483	Clinical laboratory instrumentation	8	3 (2+1+0)	2	3	0	5	3	
BMT484	Biomedical Signal Processing II	8	3 (2+1+0)	2	3	0	5	3	BMT367
BMT485	Medical Imaging II	8	3 (2+0+1)	2	0	3	5	3	BMT476
BMT486	Biomedical Technology Design and Manufacturing Techniques	8	4 (3+1+0)	3	3	0	6	4	
BMT490	Graduation Project	8	2 (2+0+0)	2	0	0	2	2	RM 320
	Total Hours/Week		**17 (13+3+1)**	**13**	**9**	**3**	**25**	**17**	
	Total Hours/Semester						**400**		

4.2.1.5. Internship Year

Internship of 12 months (48 weeks) follows completion of all 8 levels of study

4.2.2. Course Catalog:

BMT	PHASE I	PHASE II	PHASE III
	1st Year Study	3 Years Clinical	(One-year Internship)

4.2.2.1. 1st Year Study, Semester I

- **English Language I (ENG 108) (7 SCH)**

The course is designed to help students to develop their language skills in speaking, listening, reading, and writing so they can pursue clinical courses in the future. This course will provide some insights into student life and include culture, social and induction activities.

- **Mathematics I (MATH 101) (3 SCH)**

The essential basic mathematical requirements of science courses taught in the pre-clinical program. Emphasis is placed on giving the student a broad perspective of elementary mathematical terms and operations, on the basis that a sound knowledge of mathematics and its practical applications is critical for the student's progress in the basic sciences and, later, in the clinical subjects.

- **Computer Studies I (COM 100) (3 SCH)**

It introduces the student to computers. Its aim is to give the student, as an end-user, a good working knowledge of simple computer terminology and concepts and basic keyboarding skills. Emphasis is placed on acquiring familiarity with the Windows Vista operating system, Microsoft Office level 1, Internet usage, and simple computer problem- solving methods. In addition, keyboard experience enables the student to enter data with reasonable speed and accuracy and prepares him for any computer contact he may encounter later within his chosen clinical specialty.

- **Self-Development Skills (SDS 100) (3 SCH)**

التعرف على مهارات التفكير وأساليبه، تنمية الروح الإبداعية لدى الطلبة، اكتساب مهارات الاتصال مع الذات ومع الآخرين. استعمال مهارات التحدث والحوار والإقناع، اكتساب مهارات إعداد البحث تنفيذا وتقويماً. تعوّد عادات القراءة السريعة والواعية، العمل مع المجموعات بروح الفريق الواحد.

- **Fitness & Physical Education (FPE 101) (1 SCH)**

يهدف المقرر الى تثقيف الطلاب من الناحية الصحية والجسدية، وتعزيز مهاراتهم التي تتعلق بالصحة الشخصية الغذائية والرياضة والوقائية والنفسية، وتمكينهم من تقديم خدمات الإسعافات الأولية للإصابات المختلفة، مع التركيز على المواقف الحياتية، وإثارة دافعيتهم لتبني أنماط حياتية صحية سليمة.

4.2.2.2. 1st Year Study, Semester II

- **English Language II (ENG 109) (5 SCH)**

This course is continuation of ENG108 and the students will continue practicing in the basic language skills as well as it will cover the new grammatical structures and functions that are not previously covered. In addition, it will prepare students for the clinical years with English for Specific Purposes - Aspects of General English useful in all factual communication.

- **Biology I (BIO 101) (4 SCH)**

This course is designed as an introduction to biology in the 1st year program. Rather than relying alone on imparting an extensive factual knowledge, it aims to give the student a clear understanding of some of the more important principles underlying biological processes. The course also aims to impart practical skills in biology.

- **Chemistry I (CHEM I) (4 SCH)**

Introduction to Chemistry in the Pre-Clinical Program: Rather than relying alone on imparting an extensive factual knowledge, it aims to give the student a clear understanding of some of the more important principles underlying chemical processes. The course also aims to impart practical skills in chemistry.

- **Physics I (PHYS 101) (4 SCH)**

Introduction to Physics in the Pre-Clinical Program: Rather than relying alone on imparting an extensive factual knowledge, it aims to give the student a clear understanding of some of the more important principles underlying physical processes. The course also aims to impart practical skills in physics.

- **Islamic Studies (IST 200) (2 SCH)**

يعرض هذا المقرر القضايا الثقافية التي يحتاجها المسلم وموقعها من الثقافات الأخرى وبيان خصائص الإسلام التي تميز بها عن سائر الأديان ومعرفة مقومات الأمة الإسلامية بتفاعلاتها في الماضي والحاضر من دين ولغة وتاريخ وحضارة وقيم وأهداف مشتركة بصورة واعية وهادفة.

4.2.2.3. 2nd Year Study, Semester I

- **English Academic Writing (ENG320) (2 SCH)**

Construct descriptive and informational paragraphs and compose essays for creative and functional purposes. Evaluate their written work by means of rubrics provided. Expand their vocabulary base by focusing on words, phrases, and expressions for specific purposes. Improve their critical skills by making inferences and evaluating their written work. Develop the ability to cite sources used in their written work, in other words giving credit to the source.

- **Medical Terminology (HIS 111) (2 SCH)**

An introduction to the language of medicine and an overview of medical terminology, with an emphasis on basic word elements and practical terms. Word structure and analysis will form an integral part of learning commonly used medical terms. The course will cover the organization of the body, suffixes, prefixes, medical specialists and case reports. Meanings, spellings, and pronunciation will be stressed throughout the course.

- **Anatomy & Physiology (ANP 201) (4 SCH)**

Anatomy and Physiology (ANP 201) course is a four-credit course offered in the first semester of the first year of the Clinical course. This course is to provide a broad, elementary introduction to the structure and function of normal body system. On successful completion of this course, students will be aware of complex set of different body system and have a general understanding of the structural and functional organization of these systems in the human body. In practical skills, student should be able to hands on the anatomic model of different body systems and basic physiology practical, which are related to theoretical aspects of the course, using safe, hygienic methods.
However, they will be made familiar with the general safety precautions and procedures adopted in a typical anatomy laboratory.

- **Islamic Studies (IST 200) (2 SCH)**

يهدف هذا المقرر الي بيان التجربة الحية في معالجة الافكار المترددة بين الحق والباطل والتي من خلالها يمكن تأسيس التفكير الصحيح لدي الانسان وخصوصا الشباب وذلك من خلال وقفة تأمل وموازنة بين الآراء والمذاهب التي تقيم نظرتها للإنسان والكون والحياة على نحو مختلف فيه عن الاسلام الحق. كما ويهدف المقرر الي بيان الخطر الذي تتعرض له الامة من خلال الغزو الفكري والحضاري والاجتماعي والذي يمكن ضبطه من خلال بيان أهمية العقيدة الصحيحة وأثرها في حياة الناس في بناء الفرد والمجتمع بما يؤكد فضل الاسلام وسبقه في وضع الحلول لكل مراحل الحياة.

- **Applied Mathematics (MATH231) (2 SCH)**

Introduction to elementary real functions: trigonometric and inverse trigonometric, logarithmic, exponential, hyperbolic and inverse hyperbolic and other functions. Definition of continuity, continuity of composite and inverse functions. Evaluation of the derivatives of functions (rules of differentiation, derivatives of inverse functions and higher order derivatives). Function evaluation using the chain rule, parametric, implicit differentiation. Explanation of the applications of differential calculus and approximations of functions. Recognition of indefinite and definite integrals. Evaluate algebraic functions using the binomial theorem, partial fractions and matrices.

- **Electric Circuits (BMT246) (4 SCH)**

The course introduces electrical circuit theory. It provides a fundament for understanding and designing simple circuits and systems built with electrical circuit elements. Through examples and laboratory exercises the students should achieve a practical knowledge of circuit elements, exercise in use of basic laboratory equipment and an introduction to writing laboratory reports.

Topics covered include: Conventions and elements in electrical circuits, Ohm's and Kirchhoff's laws, simple resistive circuits, techniques of circuit analysis, capacitance and inductance, first-order RC and RL circuits (natural and step response), intro to AC voltage and systems.

- **Medical Ethics & Patient Care (BMT233) (2 SCH)**

The course provides the general introduction for a collection of high-quality topics in health care ethics and a resource that is sufficiently detailed for graduate students. The course covers the following topics: Introduction of ethics, Morals and characters, Duties towards patients, society, colleagues, oneself and one's profession, Commercial and financial aspects, Conducting biomedical research, Dealing with terminally ill patients, Documentation and authentication, The patient Bill of rights, code of medical ethics, Employment issues , elements of malpractice, Basics of infection control, aseptic techniques and methods of injection.

4.2.2.4. 2nd Year Study, Semester II

- **Arabic Studies I (ARB 213) (2 SCH)**

يهدف هذا المقرر الى تحقيق المقاصد التالية:

1. توسيع ثقافة الطالب والطالبة من خلال دراسة المقدمات العشر التي تبحث في تاريخ اللغة العربية وآدابها التي تدل على علو منزلتها ومكانتها التي لم تكن لأي لغة بشرية أخرى وذلك مما استودع نثرها وشعرها من نتائج عقول أبنائها وما كان لنا بغيها من التأثير فيها مما شأنه ان يهذب النفس ويثقف العقل ويقوم اللسان من خلال العصور التي مرت بها.
2. رفع الاداء اللغوي لدى الطلاب ورفع قدراتهم العملية وتنمية المهارة واستخدام العبارة المناسبة الخالية من الأخطاء الاملائية والنحوية والصرفية والتعرف على أساسيات الفصاحة والبلاغة.
3. معرفة الاستفادة من المعاجم العربية ومقاييس اللغة واستخدامها الصحيح في الكتابة والانشاء والتعبير بالعربية الفصحى حسب الضوابط وقواعد اللغة ودلالاتها من آيات القرآن الكريم والحديث النبوي الشريف ومنثور اللغة ونظمها.

- **Islamic Studies III (IST 201) (2 SCH)**

يهدف هذا المقرر إلى بيان أهمية النظام الاقتصادي في ضوء الإسلام والمنهج الوسطى في مسألة الحرية الاقتصادية والتي من خلالها يمارس الإنسان نشاطه الاقتصادي لتحقيق وظيفة إستخلافه في الأرض وتحقيق العبودية لله وبيان منهج الإسلام الشامل لكل جوانب الحياة مقارنة مع الانفلات الموجود في الأنظمة الوضعية كالنظام الرأسمالي والشيوعي الاشتراكي لتحقيق هذه الغاية السامية في ضبط النشاط الاقتصادي في جلب المصالح ودرء المفاسد.

- **Analog Electronics in Biomedical Technology (BMT354) (3 SCH)**

Introduction to silicon based electronic devices and their applications. Silicon as a semiconductor material with associated device physics. Construction of silicon diodes and their operating parameters. Applications of silicon diodes as rectifiers, regulators, light sources and photodetectors. Power supplies as direct current sources. Components of power supplies and their functions. Operation of integrated circuit voltage regulators. Construction of bipolar junction transistors their types and operating parameters. Applications of bipolar junction transistors as switches and amplifiers. Biasing techniques for operation of bipolar junction transistors as amplifiers. Operation of bipolar junction transistors in Common Emitter, Common Collector and Common Base amplifier configuration. Differential amplifier circuit layout and modes of operation. Common mode rejection in differential amplifiers and its application in noise rejection. Metal oxide semiconductor field effect transistor construction, types and modes of

operation. Biasing methods for metal oxide semiconductor field effect transistor types. Common source amplifier configuration for both depletion and enhancement metal oxide semiconductor field effect transistors.

- **Applied Physics (PHYS203) (4 SCH).**

This course will introduce students with proper units and dimensions. They will discuss work, energy, and power. Students of the course will be able to recall and reproduce the principles torque, nuclear physics and sound. Description and application of these principles in biomedical technology. Other topics to be discussed and introduced are sound, temperature and fluid physics with their properties and application.

- **Introduction to Biomaterials (BMT234) (3SCH)**

Description of fundamental physical principles governing the structure, processing, properties and performance of metallic, ceramic and polymeric materials.
Recognition of the relationships defining the control of mechanical, physical and chemical properties by microstructure and chemistry. List material failure modes with an emphasis on biocompatibility.

- **Psychology for healthcare professional (PSY203) (2 SCH)**

This course introduces the student to the basic knowledge of psychology. It is intended to assist students to identify basic psychological problems that patient suffers during stress and illness. The course focuses on the development of the human personality according to various psychological theories and covers major psychological disorders that are commonly reported in hospitals.

4.2.2.5. 3rd Year, Semester I

- **Biomedical Measurements (BMT352) (3 SCH)**

Bio-potential signal measurement techniques are stated. Noise is defined and noise minimization techniques are explained. Frequency response characteristics of amplifier circuits are discussed. Filter circuits for minimization of noise at selected frequencies are discussed. The application of differential amplifiers in the elimination of common mode noise is demonstrated. Operational amplifiers are described. Operating parameters of operational amplifiers are outlined. The use of the negative feedback technique for gain control is employed. Applications of operational amplifiers as inverting amplifier, non-inverting amplifier, voltage follower, comparator, Schmitt trigger, summing amplifier, integrator, differentiator, difference and instrumentation amplifier are illustrated.

- **Electrical Skills (BMT356) (2 SCH)**

This course outlines the characteristics of printed circuit boards. Commercially available components are identified. Methods of mounting components are discussed. Solder material selection methods are outlined. Soldering techniques are demonstrated. Component symbols are identified. Connections between components are diagrammed. Schematic flow is described. Troubleshooting methodology is illustrated using a flowchart. Circuits are developed and documented using schematic diagrams. Schematic diagrams are realized using soldering techniques. Circuits are assessed using troubleshooting techniques.

- **Fundamentals of Biomedical Instrumentation (BMT355) (3 SCH)**

Fundamentals of biomedical instrument design and implementation. Sensing mechanisms, sensor micro fabrication methods, sensor interfacing circuits, analog-to-digital conversion, bio signal capture and storage, embedded microprocessors, data compression methods, system integration and prototyping. Supplement the topics presented in class lectures.

- **Biostatistics (BST312) (2SCH)**

Introduction to Biostatistics introduces selected important topics in biostatistical concepts and reasoning. This course represents an introduction to the field and provides a survey of data and data types. Specific topics include tools for describing central tendency and variability in data; methods for performing inference on population means and proportions via sample data; statistical hypothesis testing and its application to group comparisons; issues of power and sample size in study designs; and random sample and other study types. While there are some formulae and computational elements to the course, the emphasis is on interpretation and concepts.

- **Digital Electronic Circuits (BMT361) (3 SCH)**

This course provides a modern introduction to logic design and the basic building blocks used in digital systems. It starts with a discussion of combinational logic: logic gates, minimization techniques, arithmetic circuits, and modern logic devices such as field programmable logic gates. The second part of the course deals with sequential circuits: flip-flops, synthesis of sequential circuits, including counters and registers. Different representations including truth table, logic gate, timing diagram, switch representation and state diagram will be discussed.

- **Islamic Studies IV (IST 300) (2 SCH)**

يهدف هذا المقرر الي التعريف بأسس النظام السياسي في الاسلام وموقفه من بعض المفاهيم السياسية المعاصرة وبيان قواعد هذه الاسس من خلال نصوص القرآن والسنة فيما يصلح أحوال الخلق في أمور السياسة وما تتضمنه من علاقة بين الحاكم والمحكوم في الحقوق والواجبات لكل منهما. اضافة الي العلاقة بين الدول في حالتي السلم والحرب وفق القواعد المقررة في الشريعة الاسلامي.

- **Arabic Studies II (ARB 214) (2 SCH)**

يهدف هذا المقرر الى تحقيق المقاصد التالية :

1. استمرار الطالب والطالبة في مواصلة البحث والتوسعة في آداب اللغة العربية وعلومها فيما يخص القسم الثاني من كلام العرب ألا وهو الشعر والشعراء وآدابهم.
2. زيادة الاطلاع في الشعر ورأي الإسلام فيه سلبا وإيجابا على ميزان القرآن الكريم والسنة النبوية والادلة الشاهدة على ذلك.
3. الكشف عن المواطن التي تأثر بها الشعر في عصر صدر الإسلام والوقوف عند الضوابط الشرعية من القرآن الكريم والسنة

النبوية مقارنة بالشعر في الجاهلية.

4. بيان الآداب والخصائص التي تميز بها الشعر والشعراء في ذلك العصر بدءا من عصر النبوة وعصر الخلافة الراشدة وانتهاء بالخلافة الاموية بالإضافة الى نصوص شعرية مدروسة لكل عصر من تلك العصور الإسلامية وبيان المنزلة التي ارتقت إليها اللغة العربية نثرها وشعرها وذلك بالقيام العظيم من أصحاب تلك العصور الزاهرة في خدمة اللغة العربية بعد أن أصبحت لغة القرآن الكريم.

4.2.2.6. 3rd Year Study, Semester II

- **Networking and Healthcare Informatics (BMT360) (2 SCH)**

The course provides the graduates of biomedical technology department with a solid foundational, fundamentals understanding of the evolving scientific health informatics discipline that deals with the collection, storage, retrieval, communication and optimal use of health related data, information and knowledge using methods and technologies of the information sciences for the purposes of problem solving, decision making and assuring highest quality health care in all basic and applied areas of the biomedical sciences.

- **Optical Biomedical Instrumentation (BMT362) (3 SCH)**

This course covers the Quantum theory of light, Electromagnetic spectrum, applications of electromagnetic radiation in medical field, Reflection and Mirrors, Mirror equation, Spherical aberration, Fermat's principle and reflection laws, Refraction, Index of refraction, Fermat's principle and Snell's law Prisms, Prism spectrometer; Lenses, lens-maker's equation, Lens aberrations, Microscope; Interference, diffraction and polarization of light, Michelson Interferometer, Young's experiment, Diffraction grating, Resolving power of instruments; Optics of the eye, Biological structure, Parts of the eye, Photometry, Functions of the eye, Vision correction with the external lenses; Light sources, detectors, and displays; Laser basics, Essential elements of lasers, Stimulated emission, Stimulated absorption, Spontaneous emission, Characteristics of laser light, Biomedical applications of lasers; Fiber optic: Optic of propagation, Fiber optic sensors and their applications in medical field, Endoscopes; Laboratory instrumentation: Spectrophotometer.

- **Biomechanics (BMT363) (3 SCH)**

This course will expose students to basic principles and lows of human tissue mechanics. Students will get to know the biomechanical terminology related to forces, vectors, moment, equilibrium, etc. Newtonian lows and its biological applications will be presented. Additionally, mechanical properties of different human tissues and their behavior under different mechanical conditions will be presented. Furthermore, students will be trained on calculation and diagrammatic illustration of forces and force vectors.

- **Biopotentials (BMT366) (3 SCH)**

Structure of an excitable cell membrane is stated. Three major modes of ion transport are outlined. Permeability of the cell membrane to ions and molecules is articulated. Recall the diffusion process in cellular transport. Explain the role of active transport in the movement of ions against their gradients. Neuron structure is stated. Action potential is described in detail. Cardiac myocyte structure is stated. Two general types of cardiac action potential are compared based on their response characteristics and their sources are identified. Cardiac membrane potential is diagrammed.

- **Biomedical Signal Processing I (BMT367) (3 SCH)**

This course introduces signal processing where classification and description of signals and systems, some useful signal operations and models are discussed. Time-domain analysis of continuous-time signals and systems, frequency-domain signals and systems analysis using the Laplace transform, Fourier series and Fourier transform are integral part of the course. Introduction to discrete-time signal and systems analysis, and sampling theory. Computer exploration in Signals and System Analysis.

- **Research Methodology (RM320) (2 SCH)**

This course is taught as a unified subject for Baccalaureate Students College wide. It is designed to provide undergraduate students with basics of research methodology. As a Baccalaureate degree graduate, students are expected to have

a basic understanding of how to design and conduct research. Therefore, this course will introduce students to the necessary information regarding research ethics, the rational for conducting research. Skills required to conduct a purposeful literature search using on-line and off-line search strategies and critically appraise literature are emphasized in this course. Students will also learn how to design and write a research proposal with its essential components in order to execute their proposed research idea as a graduation project. Types of research design, study variables, research question, research hypothesis, sampling techniques, qualitative and quantitative data collection methods and validity and reliability are basic content topics of this course.

- **Maintenance Management (BMT475) (2 SCH)**

Maintenance Management introduces the fundamentals of health technology management and maintenance strategy. It emphasizes on the basis of medical devices classification, and the different classifications systems adopted by various regulatory agencies. It highlights the medical devices regulatory process, and its role in insuring introduction of safe, quality, and effective medical devices into the market The course introduces students to technology evaluation and procurement, equipment control and asset management, service cost effectiveness, and continuous quality improvement, and highlights their importance in healthcare technology management.

4.2.2.7. 4th Year Study, Semester I

- **Hospital safety (BMT471) (2 SCH)**

This course covers safety issues within healthcare facilities. It mainly focuses on electrical safety for medical devices. This is covered on the level of medical device design and on the level of power distribution system. Other safety issues such as radiation protection and medical waste management are covered as well. In the practical, students are trained to use the electrical safety analyzer to perform safety tests such as leakage current, ground resistance, insulation resistance, patient leakage current, etc.

- **Biomedical Microprocessor & Microcontroller Applications (BMT472) (3 SCH)**

Outline the architecture of microprocessor and microcontroller-based systems. Operate microcontroller and microcontroller-based systems using standard programming languages. Describe the operation of microprocessor and microcontroller-based systems. Discuss the applications of microprocessors and microcontrollers in biomedical equipment interfacing.

- **Tissue Technology (BMT473) (3 SCH)**

This course covers essential concepts of organ and tissue design and engineering using living components, including cell-based systems and cells/tissues in combination with biomaterials, synthetic materials and/or devices. Topics include: In vivo tissue structure and function; Isolation and culture of primary cells and stem cells; Principles of cellular differentiation; Mass transport processes in cell culture systems; Design, production and seeding of scaffolds for 3D culture; Design of bioreactors to support high-density cell growth; State-of-the-art engineered tissue systems; Clinical translation; and Ethics.

- **Biomedical Computing (BMT482) (3 SCH)**

Biomedical computing course provides students a conceptual framework for understanding medical informatics and applications of information technology in the healthcare environment. The course will include in-depth discussion of how to use of technology in health care systems with emphasis on leveraging technology to improve quality and efficiency in care delivery. Moreover, the course provides an overview of the most important aspects of medical informatics that will impact the clinical research, education, health management and clinical services.

- **Biomedical Instrumentation (BMT474) (4 SCH)**

Medical instrumentation systems, sensors, and biomedical signal processing. Examples of instruments for cardiovascular and respiratory assessment. Clinical laboratory measurements, therapeutic and prosthetic devices, and electrical safety requirements. Students should have background in electronics design using operational amplifiers.

- **Medical Imaging I (BMT476) (3 SCH)**

The course introduces the students with greater emphasis on concepts and theories pertinent to radiology such as the structure and function of the devices incorporated in x-ray circuitry, the types & function of x-ray tubes, electromagnetic waves & their characteristics, Bremsstrahlung & Characteristic radiation and x-ray interactions with matter. It introduces the student to the theory of x-ray production and its utilization in diagnostic radiography and it consists of a review of the various forms of energy, the study of x-ray production. Also, it includes an explanation of the difference between conventional and digital radiography.

4.2.2.8. 4th Year Study, Semester II

- **Special Topics in Biomedical Technology (BMT481) (2 SCH)**

Train students in advanced Technology techniques and skills that can be applied to solve problems in medicine and medical science. Provide students with appreciation of how biomedical technology today relates to both current practices in clinical medicine and the healthcare industry. Suggested topics includes and not limited to the following:

- Advanced biomedical technology maintenance management.
- Healthcare informatics, standards and interoperability issues.
- Medical and Engineering Ethics: stem cell grows and maintenance
- Ambient systems in healthcare technology.
- Biomedical signals in medical imaging and diagnostics.
- Biomaterial science and regenerative engineering.
- Biomechanics of human movement.
- Bio-devices, and bioelectric medicine: assistive devices, implants, prostheses.
- Neural engineering
- Tissue organization and dynamics,
- Transport processes in engineered tissues.

- **Clinical laboratory instrumentation (BMT483) (3 SCH)**

This Course is designed to introduce the student to a basic selection of the instrumentation and automation commonly used in the medical laboratory. The course provides basic principles to instrumental methods involved in the operation, calibration and maintenance of chemical analysis instruments commonly found in analytical laboratories Modern laboratories are highly automated and it is important for the student to be able to understand the principles of such equipment and, also, to be able to recognized them in different makes and models. The Biomedical Technology (BMT) must be able to use such equipment in a safe and competent manner and, at the same time,

be able to care for and maintain these items. This Course also covers some elementary methods of analysis, so that the BMT will be able to select and use the appropriate equipment for the relevant procedure. This course is a combination of theory and hands-on laboratory experiment. Topics include: Principles of laboratory analysis, visible and ultraviolet spectroscopy, infrared spectroscopy, atomic spectroscopy, gas chromatography and high-performance liquid chromatography, electrophoresis, particle counters etc.

- **Biomedical Signal Processing II (BMT484) (3 SCH)**

Frequency analysis of discrete time signals and systems. Sampling and reconstruction of signals. Z- transform: properties and applications to signal processing. Discrete Fourier transform: properties, applications and computations methods with emphasis on fast Fourier transform. Implementation of discrete time systems. Frequency analysis of discrete time signals and systems. Design of analog and Digital filters.

- **Medical Imaging II (BMT485) (3 SCH)**

This course will develop the fundamental knowledge of the technology, physics and instrumentation that underpin contemporary aspects of imaging formation in modern medical imaging modalities. Building upon existing knowledge of the underlying physics, the student will learn the technical basis of the instrumentation of modern medical imaging modalities including computed tomography, ultrasound, magnetic resonance imaging, positron emission tomography-computed tomography. Particular emphasis is placed on the expanding role of safety in medical imaging and the role of digital image acquisition, archival and retrieval using picture archiving and communication systems.

- **Biomedical Technology Design and Manufacturing Techniques (BMT486) (4 SCH)**

The course covers an introduction to design, classifying medical devices, the design process, implementing design procedures, developing product design specification, generating ideas and concepts, quality in design, design realization, detailed design,

evaluation validation and verification, labeling and instructions for use and obtaining regulatory approval to market. It briefly deals with post market surveillance, protecting your IP. The course encourages students to use mathematical, physical, and physiological knowledge to design a marketable hardware or medical software device. The course introduces several clinical issues, problem and case studies and includes information about device's permeability, biocompatibility, safety, performance clinical testing, device market promptness, human factors, reliability, ethics and medical products liability; all through EC and FDA regulations. The course enables students to improve their communication skills through a mix of individual and team course work. A final design project will be given to students that include conceptual and practical thinking on developing medical devices that can solve serious clinical problems and improve lifestyles.

- **Graduation Project (BMT490) (2 SCH)**

Design projects in various multidisciplinary areas of bioengineering. Students work in teams as Bioengineering Design Consultants, providing engineering design services, emphasizing project definition, feasibility analysis, evaluation of alternative designs, and design computations. For each project, the scope of work is developed and negotiated between client and student consultants. The scope of work may also include fabrication, device testing, and field-testing. Projects are arranged by the students with approval of the instructor. Continually updated project briefs, planning documents, interim reports, a final report, a final poster, and presentations are required. In addition to technical design, students develop skills in communication, planning, project management, and project risk management.

5. Clinical Internship:

The internship program is designed to give the Biomedical Technology (BMT) students an opportunity to obtain experience in the operation of a Biomedical Engineering department. The duration of the student`s internship at the hospital medical laboratories will be 48 weeks. Internship is usually performed in the Ministry of Defense and Aviation and/or Ministry of Health hospitals but in some cases private companies dealing with medical equipment throughout the kingdom.

The internship specific aims shall include the following:

- Demonstrate and improve skills acquired during study in the handling of technical problems.
- Display and improve effective, supervisory, administrative, and leadership skills.
- Comply with ethical, legal, socio-cultural and professional standards.
- Express positive attitudes towards the profession, health, personnel and colleagues.
- Enhance critical thinking, and problem-solving skills.
- Application of learnt principles.
- Effective and efficient communication with medical and other staffs as well as patients and their families.
- Development of professional ethics and behaviors through interactions with other professional workers in the healthcare field.

Through the internship period, the students must be assigned to a qualified and experienced Biomedical Specialist or engineer, whose responsibilities include the following:

- To direct and supervise the student’s daily activities and tasks within the Biomedical Department and other clinical/departmental areas in the hospital.
- To introduce the student to the Department’s organization and procedures by way of a short in-service course and tour.
- To provide any advice and instructions during the period that the student is under his/her jurisdiction.

- To monitor and assess the student's performance throughout their internship regarding attitudes, special aptitudes and capabilities demonstrated by the student.

The suggested Rotation Duration is as follows:

Department	Duration
ICU: Adult and Neonatal	4
Respiratory Care	2
Operating Room	2
Anesthesiology	2
Diagnostic Imaging	8
Emergency Room	2
Laboratory Medicine	8
Physical Therapy	2
Dental Hygiene	2
Biomedical Dpt.	16
Total	**48 weeks**

5.1. Evaluation and Assessment of the Internship Year

At the end of the internship, the Intern's performance will be assessed. This will cover the Intern's professional knowledge and practical and interpersonal skills. The Intern Evaluation Form will be completed and returned to the College.

In the event of an unsatisfactory assessment in any one of the areas outlined in the evaluation, the BMT student will be required to repeat all or any part of the Internship in

which the required standard has not been achieved. Only when the Intern has fulfilled all the requirements of the Internship program the College Awards and Appeals Committee will approve the award of the Certificate.

5.2. Clinical Sites

The clinical site for students' internships should preferably be a well-organized biomedical engineering or well-known company dealing with medical equipment. These include but are not limited to the following:

- Prince Sultan Military Medical City, Riyadh.
- King Fahad Armed Forced Hospital, Jeddah
- King Fahd Military Medical Complex, Dhahran.
- Al Hada Hospital for Armed Forces, Taif.
- Air Force Hospital, Dhahran.
- King Fahd Specialist Hospital, Dammam.
- Armed Forces Hospitals in Southern Region Program, Khamis Mushait.
- Dammam Central Hospital, Dammam
- Johns Hopkins Aramco Healthcare.
- King Salman Armed Forces Hospitals in Northwestern Region, Tabuk.
- National Guard Hospital, Dammam
- Siemens AG
- General Electric
- Dräger

6. Attendance Policy and Punctuality:

1. Students should be present in every class ahead of time. The attendance will be taken at "zero time". For example, for a 8:00 class, attendance must be taken at 8:00. Any student attempting to enter the class after "time zero", i.e. from 8:01 onwards in the example above, may be admitted at the discretion of the instructor but he/she must be marked absent. There is no such thing as an excused or unexcused absence.
2. All cases of absence or lateness are recorded as absences. Please note that there are breaks of at least 5 minutes between consecutive classes. There are normally 8 classes of 50 minutes each on the daily College timetable.
3. Classes should also finish on time and should not be cut short arbitrarily. Exceptions to this include classes used for examinations or practical, both of which may finish early if all students have completed their work and no break times.
4. The student will get warnings (Warning letter) if he/she exceeds a certain number of absences. The intervals of warning are as flows:
    - 10-14 % Absence= 1st warning
    - 15-20 % Absence= 2nd warning
    - 21-25 % Absence= 3rd warning
    - Above 25 % Absence = Deprived for the course and the student cannot write the final exam.

على الطلاب حضور جميع المحاضرات والدروس المعملية والعملية ويحرم من الاستمرار في دخول الاختبار النهائي اذا زادت نسبة الغياب عن 22 % في السنة التحضيرية و 25 % في السنوات العملية. يراجع هذا ونظام الأعذار القهرية المقبولة والانذار الأكاديمي وغيرها من الأمور الهامة للطالب بموقع الكلية الإلكتروني.

http://www.psmchs.edu.sa/images/reg-regulations/bsc-exams-regulations.pdf

7. Exams Policy

Rules and Regulations for Students:

A. Students will remain outside the examination room until directed to enter by the senior invigilator.
B. All examinations should start and end promptly at the scheduled time.
C. Students must wear the college uniform, female students are not allowed to wear Abaya, Hijab or Niqab during examinations (except in case of a male present, it is only allowed to wear Hijab and Niqab not Abaya).
D. Students must place all bags and other items outside the classroom.
E. Students are required to sign their name on the exam attendance sheet (with his/her ID card).
F. Student's name and academic ID must be clearly placed on the examination booklet and applicable answer sheets.
G. Students are not allowed to enter the exam room without the student ID card. Once the students have been seated, they must display their student ID cards on their desks, photo side up. Students are not allowed to conduct further conversations.
H. Writing on desks or computers is prohibited. Please ensure to put your chair back in place before you leave the classroom.
I. Late students are allowed entrance up to 30 minutes past the start time. Please note that no student may depart prior to 35 minutes after the start.
J. Students must bring sufficient equipment to the exam and may not borrow from others during the period.
K. Students must have the blackboard password before the examination time.
L. Students are not allowed to leave the exam room for any purpose (including toilet) during the exam period unless they submit the exam paper or sign out for online exam.
M. Students are forbidden to bring cell phones, watches with camera, any audio-visual devices or using any translation system into examination room. They are treated as a source of cheating.

N. Cheating will subject the students to disciplinary actions and failure.

O. Should a student experience comprehension problem to the examination process during the examination or completes his examination he/she must alert the invigilator by raising a hand. Only, he/she will quickly and quietly depart the facility.

P. Students are not allowed to tamper with the computer, electrical connectors and internet which may lead to disconnect the computer during the exam and loss time and information.

For more information see the college web site:

https://www.psmchs.edu.sa/en/

8. Students Guideline for Examinations

- Faculty members will monitor all exams and/or quiz sessions closely.
- Students will put their name on the test paper as soon as it is passed to them.
- Students will return quizzes or exams to instructor before leaving the classroom.
- Students are responsible for completely erasing any changes on his/her answer sheet. Once the answer sheet is handed over to the instructor, no more changes can be done on the answer sheets.
- Students will not discuss questions on exam or quiz with other students who have not taken that exam or quiz.
- Students may be asked to sit on assigned seats number.

9. Grading Schemes (Assessment Methods)

9.1. The Main Purposes of Assessment are:

- To test how well the student has learned and mastered the course objectives.
- To validate the efficacy of the teaching methodology and strategies.
- To evaluate the entire content of the course.

To be educationally valid, all forms of assessment must be directly related to the aims and objectives of the course. It will provide a means, by which the student can clearly demonstrate acquired knowledge and the mastery of skills learned during the course of his studies. It will help identify, not only the nature and quality of learning, but also point to any particular strengths and weaknesses which a student may possess. Thus, in any given course, the full range of assessment would normally be used. In addition, the assessment will have a direct influence on many other aspects of the Course, including teaching strategy and methodology, course content, course standards, aims and objectives.

9.2. Assessment Types:

The Overall Assessment for each Course Consists of Two Parts:

1. Continuous assessment.
2. End-of-semester (or sectional) examinations.

- Continuous assessment is carried out on work completed and marked during the semester. A pre-determined portion of these marks consist of work carried out by the student under formal conditions, (e.g. study unit tests, classroom written and oral tests, practical tests/exam, mid- semester examination). Other marks, allocated to continuous assessment are obtained from work carried out

under non-formal circumstances, (e.g. Assignments, exercises, class presentations practical and clinical competencies evaluation, etc.). All such marks are weighted and combined to yield the overall continuous assessment mark. That must fall within the range, 40-60%, of the overall mark given to the Course.

- An end-of-semester assessment is carried out on work covering in many different aspects of the Course. All End-of-semester assessment is carried out under strictly formal examination conditions at the end of each long semester. It may include a series of examination papers, practical/clinical examinations, oral examination, etc. Marks obtained from these sources are weighted and combined to give the overall end-of-semester assessment mark, which falls within the range 40-50% of the overall mark given to the Course.

10. Academic Integrity and Plagiarism

10.1. Standards of Academic Conduct (Behavior)

As an academic institution, PSMCHS is committed to the discovery and dissemination of truth. However, PSMCHS beliefs that all members of the college community shall conduct themselves honestly and with professional demeanor in all academic activities. The BMT faculty has established standards of academic conduct because of its belief that academic honesty is a matter of individual and college responsibility and thus, when standards of honesty are violated, each member of the community is harmed. Furthermore, members of the college community are expected to acknowledge their individual responsibility to be familiar with and adhere to the Academic Integrity Policy

10.2. Violations of Academic Integrity

Violations of the Academic Integrity Policy will include, but not be limited to, the following examples:

Cheating during examinations includes any attempt to:

- Look at another student's examination paper with the intention of using their answers for their personal benefit.
- Communicate by any means and in any manner, information concerning the content of the examination during the testing period or after the examination to someone who has not yet taken the examination.
- Use any materials, such as notebooks, notes, textbooks, or other sources, not specifically designated by the instructor of the course for student use during the examination period.
- Engage in any other activity for the purpose of seeking aid not authorized by the instructor.

10.3. Statement of Cheating

The following statement is a supplement to the College Rules and Regulations on Cheating. They are presented to ensure that cheating will not be allowed. Should cheating occur, students will be aware of what action will be taken by the faculty.

Academic dishonesty cannot be disregarded. When such misconduct is established as having occurred, it subjects you to possible disciplinary actions ranging from admonition to dismissal, along with any grade penalty the instructor might, in appropriate cases, impose. Procedural safeguards of due process and appeal are available to you in disciplinary matters.

- Plagiarism is the copying from a book, article, notebook, video, and/or other source material. Whether published or unpublished, without proper credit through the use of quotation marks, footnotes, and other customary means of identifying sources. Moreover, passing off as one's own the ideas, words,

writings, programs, and experiments of another whether or not such actions are intentional or unintentional. Besides, plagiarism will also include submitting, without the consent of the instructor, an assignment already tendered for academic credit in another course.

- Collusion is working together in preparing separate course assignments in ways that are not authorized by the instructor. Academic work produced through a cooperative (Collaborative) effort of two or more students is permissible only upon the explicit consent of the instructor.
- Lying is knowingly furnishing false information, distorting data or omitting to provide all necessary required information to the College's advisor, registrar, admissions counselor, instructor etc., for any academically related purpose.
- Other concerns that relate to the Academic Integrity Policy include such issues as computer security, stolen tests, falsified records, and vandalism of library materials. No list could possibly include all the possible violations of academic integrity. The examples given should however, give a clearer idea of the intent and extent of applications of this policy.

10.4. Faculty Responsibilities for Upholding the Academic Integrity Policy

Faculty members are expected to be familiar with the academic integrity policy. Each faculty member will inform students of the applicable procedures and conditions early on in each semester before the first examination or assignment is due.

Ordinarily, class tests and final exams should be observed. Invigilation is defined as having a faculty member present in the room. Invigilation is the responsibility of the faculty member teaching the course although, where necessary, that responsibility may be shared with or delegated to faculty colleagues or graduate assistants assigned to the course.

10.5. Student's Discipline

Staff are expected to maintain discipline in class at all times. In cases where a student shows persistent indiscipline, he/she should be given two verbal warnings and then dismissed from the class. In the event of a dismissal, the incident should be reported to the Head of Department, using the "Record of Student Discipline" form. This is forwarded through the relevant coordinator, to the Student Affairs Department and the student is then called in for counseling. A copy of the form is also placed, for purposes of documentation in the office of the Director of Applied Sciences.

تعني أحكام هذه اللائحة بما يلي:

1. ضبط سلوك الطلاب داخل الكلية أو من مرافقها او مراكز التدريب.
2. تقويم الطلاب المخالفين ومعالجة سلوكهم بالأساليب التربوية المتاحة في الكلية.
3. إقرار العقوبات التأديبية على الطلاب المخالفين للأنظمة واللوائح المعمول بها.

يتم مراجعة هذه اللوائح ومعرفة عقوبة كل مخالفة من الموقع الإلكتروني للكلية لائحة تأديب الطلب:

https://www.psmchs.edu.sa/wp-content/uploads/2023/04/Regulations-For-Undergraduate-2023.pdf

11. Assignment (Homework) Element and Guidelines

The assignment element is regarded as an extension to the teaching element. Assignments that are prepared by faculty members at PSMCHS, are intended to give the student an opportunity to demonstrate what he/she has learned. They are designed in such a way as to require the student to search, analyze and apply any knowledge and understanding which has been acquired during his/her course.

11.1. Assignment Guidelines:

All assignments should be submitted with the following details:

- Assignment cover sheet which include details of course code, assignment topic, date of submission, instructor who receives the assignment and official marking details.
- Assignments should be submitted on plain white, A4 size paper.
- Assignments should be typed and will have the format shown below:
    - Font size to be 12 pitches.
    - Font style to be Times New Roman.
    - Margins to be-top and bottom=2cm, left and right=2.5cm.
    - Typing to be spaced at 1.5 line spacing.
- A student should check his/her work prior to submission to ensure minimal typographical errors, as this can influence marking.
- Marks shall be deducted if the assignment is in deficit or in excess of the set word limit of the assignment.
- The course lecturer should provide specific assignment guidelines and marking breakdowns when the assignment topic(s) is/are forwarded to the students.

A reference list and/or a Bibliography shall be included at the end of an assignment.

12. Laboratory Practical

The laboratory practical demonstration is intended to reinforce the systematic elements in a Course, providing the student with first-hand experience of applied methods and procedures, equipment and critical thinking /problem-solving activities.

In the science-based Courses, a wide range of activities are encountered and fresh skills learned (e.g. manipulation and function of apparatus, handling and use of measuring devices, making observations, tabulations and recording of results, drawing and labeling diagrams, tests on and preparation of samples, report-writing and making inferences, preparation of standard laboratory setups, interpretation of results, etc.).

In the BMT Specialty Courses, the student will meet and develop additional important skills, (e.g. practices, standardization and simple maintenance of equipment, health and safety measures, interpersonal skills and teamwork, simulate different phenomena, professional ethics and integrity, etc.). It is intended to be a review session where the student will have the opportunity to analyze, criticize and discuss his performance in the practical class. The importance of such sessions cannot be over-stressed or under-valued as they are meant to ensure that the student derives the maximum benefit from his/her practical work in controlled environment. Moreover, they are useful in correcting and improving any deficiency in either the practical/theoretical content or the student's learning capabilities/methods.

Each course with a practical session has practical manuals including student evaluations and competencies. These manuals must be followed by the practical instructor. The practical and the course instructor must communicate on a weekly basis to discuss the progress of the course

13. Laboratory Safety

Laboratory settings represent an extremely important part of effective science learning. Articles and diagrams can bring across a huge amount of knowledge and information, but students learn more when they watch and observe experiments in labs. Although dangers may arise from scientific experiments, being cautious and following proven safety practices greatly reduce the chance of sudden accidents. Knowing the possible risks and taking preventive steps are the basis for creating a safe learning atmosphere.

The Good Laboratory Safety Practices Policy is a step towards the achievement of a safe and healthy work and study environment on the college campus. No reference point has been established as to what constitutes a truly safe and hazard free atmosphere in laboratories. It is impossible to remove all dangers from a laboratory; therefore, we should strive to make the laboratory reasonably safe.

A person who has a strong understanding of safety recognizes hazards, has the ability to assess how exposures to these hazards might occur, and knows how to manage and control hazards so that exposure and risk are minimized. Learning about emergency procedures, how emergency equipment operates, and how to make decisions about emergencies can bring a better understanding for the need for safety and at the same time encourage the person to work more carefully in the laboratory, preventing incidents from occurring.

Hazards In The Lab

- **Biological:** Exposure to blood and body fluids and specimens that harbor HIV, HBV, HCV etc.
- **Chemical:** Acids, alkalines, toxic chemicals
- **Radiological:** Ineffective radioactive waste disposal
- **Physical**: Using sharps like needles, syringes, blades, laboratory glass, scalpel, razor blades, microscope slides etc…
- **Fire**
- **Electrical Accidents**

14. GENERAL SAFETY RULES

1. Each student should use personal protective equipment that includes, as a minimum, safety goggles, chemical resistant gloves, and a laboratory coat. Laboratory coats protect clothes and prevent students and workers from "bringing home" dangerous chemicals or pathogenic organisms. Remove laboratory coats when leaving the laboratory. Change laboratory coats immediately upon significant contamination and do not wash laboratory clothing at home.
2. Safety goggles should always be worn when working in any laboratory, especially when experiments involve dangerous chemicals that could splash on the eyes. Particularly hazardous operations are the mixing or dilution of strong acids and alkalis, and the opening of sealed containers, especially those which have been shaken or heated.
3. Do not touch the face, apply cosmetics, adjust contact lenses, or bite nails during any experiment. The use of contact lenses in science laboratories is strongly discouraged because the capillary action of solutions causes rapid spreading of the solution under contact lenses and possibly delay the removal of the lenses. Quick removal of contact lenses is very difficult under adverse conditions. When laboratory activities are anticipated, prescription glasses should be worn unless a student cannot see without contact lenses. Contact lenses are also not to be worn when a dust or vapor hazard exists unless vapor-resistant goggles are available. It is essential to provide approved, non-vented protective goggles promptly to students, teachers, and visitors wearing contact lenses and ensure that the goggles are worn regularly.
4. Wash arms and hands immediately after working with allergens, carcinogens, pathogenic organisms, or toxic chemicals. Wash exposed skin well before leaving the laboratory.

5. Clean all spills and leaks quickly. Spill kits should be purchased and used to assist in clean-up operations.
6. Do not store or consume food and beverages in laboratories or near chemicals.
7. Do not smoke in laboratories.
8. Avoid smelling or tasting chemicals.
9. Avoid using damaged glassware. Broken glassware should be discarded in sealed boxes.
10. Used needles and syringes, razor blades, Pasteur pipettes and other sharp equipment should be placed in special containers labeled "sharp".
11. Do not engage in practical jokes, horseplay, or other acts of carelessness in the lab.
12. Oral pipetting or mouth suctioning of hazardous, caustic, toxic, radioactive, cancer-causing chemicals, or biological specimens is prohibited.
13. Tie long hair and fix loose clothing. Avoid wearing finger rings/jewelry that may become contaminated, react with chemicals, or be caught in the moving parts of equipment.
14. Always wear shoes in the laboratory. Sandals, flip-flops, perforated shoes, open-toed shoes, or canvas sneakers are prohibited in the laboratory.
15. Everyone is responsible for keeping the work area clean.
16. Chemicals and equipment should be clearly and correctly labeled as well as properly stored.
17. Clean work area upon completion of a procedure. Make sure that everything is clean in the laboratory at the end of each day.
18. Appropriate warning signs must be posted by the instructor conducting the experiment near any dangerous equipment or experiment.
19. The laboratory staff must ensure that the interior connecting doors between laboratories are always unobstructed and unlocked.
20. Adequate, skid-proof footstools and stepladders should be used by the

laboratory staff for reaching upper shelves. Do not stand on chairs or other easily movable objects.

21. All equipment must be inspected by the instructor, who is planning to conduct the experiment, for its defects prior to use.
22. Gas, air, and vacuum services should be turned off at the bench service valve when such equipment is not in use.

23. Be alert in unsafe conditions and correct them when detected.
24. Minimize the use of sharps. Use needles and scalpels according to appropriate guidelines and precautions.
25. Use appropriate pest-control methods for rodents, insects, etc. Disinfect the bench before and after the lab session with a disinfectant known to kill the organisms. Use disinfectants according to manufacturer instructions.
26. Avoid working alone in the laboratory.
27. Avoid using personal items (cosmetics, cell phones, calculators, pens, pencils, etc.) while in the lab.
28. Safety in the laboratory should be taught and reinforced to the students throughout the year by the faculty members associated with the laboratory work.
29. In case of any accident, the concerned faculty member should ensure that all injuries/exposure are documented according to college safety policies. Laboratory Incident Report forms are available in the appendix. A copy of incident report must be sent to the Office of the Laboratory Superintendent.

15. First Aid

The first aid kit is the most important part in the lab safety contents as students might encounter chemical, physical or health hazards during the course of an experiment. It helps to protect staff, students and the college property. It demands trained and knowledgeable staff to deal with the emergency situations in the lab. There must be someone who is capable to do initial emergency procedures before proper treatment is available. If an emergency occurs in the lab, the instructors are expected to act in an efficient way with minimal display of emotion. They are required to evaluate the problems with great attention and initiate actions according to the victim's symptoms. They should take measures to lessen the anxiety or fear of the injured student/students. The first aid kit must be readily available in all labs to avoid any medical mishaps. The kit must be legibly marked as "FIRST AID" along with the safety information sign. If an aspect of the sign gets faded or damaged, it must be replaced.

Immediately call the emergency hotline by dialing **4444** once an accident happens. Follow the assistance from your colleagues if necessary, and be calm, composed, and collected since most accidents are not deadly. Avoid giving liquids/medicines to an unconscious person. Don't self-diagnose and get help from the medical professionals. Emergency contact numbers should also be posted on the walls and corridors of the labs. A written incident report must be sent to the Office of the Laboratory Superintendent when such incidents occur.

Simple first aid kit includes, but not limited to the following items:

1. Gauze pads (at least 4 x 4 inches)
2. Two large gauze pads (at least 8 x 10 inches)
3. Alcohol rub (hand sanitizer) or antiseptic hand wipes
4. One package gauze roller bandage at least 2 inches wide
5. Two triangular bandages
6. Wound cleaning agent such as sealed moistened towelettes
7. Scissors
8. At least one blanket Tweezers
9. Adhesive bandages- most commonly used items in first aid kit
10. Latex gloves
11. Resuscitation equipment such as resuscitation bag, airway, or pocket mask Clinical thermometer

16. Emergency Contact Information:

Department/Venue	Phone No/Ext
Fire Brigade	**4444/6000/5940**
Ambulance	**4444/4463/4732**
Hospital Casualty	**4444**
Office of the Laboratory Superintendent	**6943**

For more information about Safety in the lab, please see the Laboratory Safety and Standards Handbooks.

17. Student's Affairs Services

يسعى قسم شئون الطلاب إلى توضيح بعض إشكاليات التي قد يواجهها الطالب بعد انتقاله من البيئة المدرسية إلى البيئة الدراسية الجامعية، ويقوم قسم شئون الطلاب بدور الوسيط بين الطالب وجميع أقسام الكلية حيث يتولى القسم رعاية الطالب من الناحية التوجيهية والاجتماعية وتتلخص مهام القسم بالنقاط التالية:

يسعى قسم شئون الطلاب إلى توضيح بعض إشكاليات التي قد يواجهها الطالب بعد انتقاله من البيئة المدرسية إلى البيئة الدراسية الجامعية، ويقوم قسم شئون الطلاب بدور الوسيط بين الطالب وجميع أقسام الكلية حيث يتولى القسم رعاية الطالب من الناحية التوجيهية والاجتماعية وتتلخص مهام القسم بالنقاط التالية:

- مساعدة الطالب للتغلب على الصعوبات (الاجتماعية والنفسية) التي قد يواجهها.
- إعداد برامج تخص الطالب مثل (برنامج استقبال الطلاب الجدد).
- الرد على استفسارات أولياء الأمور لمتابعة أبنائهم دراسيا في النواحي الأكاديمية وفي الغياب.
- يقوم القسم بتزويد الطالب بجميع النماذج من تعريف واستمارة لتجديد البطاقة الطبية.
- يقوم بمتابعة الطلاب في الغياب والإنذارات وذلك بالتنسيق مع قسم التسجيل بالكلية.
- يقوم القسم بتطبيق نظام العقوبات المتعلقة باللوائح التأديبية الخاصة بالكلية.
- كما يقوم القسم بمتابعة الطلاب بالسكن من النواحي الارشادية النفسية والاجتماعية.
- ويقوم القسم بتنظيم الأنشطة الطلابية التي تشمل الأنشطة الرياضية على (كرة قدم كرة الطائرة التنس السباحة رفع الأثقال) حتى يتمكن الطالب من ممارسة هواياته المفضلة لديه. والأنشطة الثقافية والاجتماعية التي تشمل) الرحلات الترفيهية والعلمية والمسابقات العلمية والبرامج المتعددة.
- يقوم القسم بتوعية الطالب من النواحي النفسية والاجتماعية والصحية والثقافية وذلك باستضافة المحاضرين المختصين.
- يشارك القسم بإجراءات القبول والتسجيل للطلبة المستجدين.
- يشارك القسم في تنظيم حفلات التخرج.
- متابعة الحالات الصحية الطارئة للطلبة خلال الدوام الرسمي.
- لقسم مسؤول عن اجراءات الترشيح للمجلس الطلابي ومتابعة مهامه ونشاطاته لطلاب وطالبات الكلية

17.1. Student Club

نادي الطلاب:

- أهداف الأندية الطلابية:
- صقل شخصية الطلبة وإبراز مواهبهم المختلفة.
- استغلال أوقات الفراغ ببرامج هادفة ومفيدة.
- هيئة الطلبة لمواجهة أعباء الحياة بعد تخرجهم.
- إقامة النشاطات التي تبرز جهود أعضاء النادي في المجالات التي يتميزون فيها.
- اكتشاف المواهب الطلابية ورعاية الموهوبين.
- تهيئة البيئة الملائمة للطلبة لتنمية قدراتهم ومهاراتهم، وتبادل الخبرات فيما بينهم والعمل على
- تشجيعهم ودعمهم وتكريمهم.
- المشاركة في المناسبات المختلفة داخلياً وخارجياً وتبادل الخبرات.
- توثيق الإنتاج الطلابي وإنشاء قاعدة بيانات للمواهب الطلابية في مختلف المجالات.

الأندية الطلابية المعتمدة في كلية الأمير سلطان العسكرية للعلوم الصحية:

- النادي الصحي
- نادي الصحة النفسية
- النادي الرياضي
- النادي الثقافي والأدبي
- نادي تطوير الذات
- نادي تكنولوجيا المعلومات
- نادي العناية التنفسية
- النادي العلمي
- نادي الشراكة المجتمعية

يتم الترشح لأي من هذه الاندية عن طريق قسم شئون الطلاب. ولمزيد من المعلومات الرجاء الاطلاع على دليل الطالب في موقع الكلية.

18. Student Housing

خدمات الإسكان :

توفر الكلية غرف سكنية مؤثثة ومجهزه بالكامل للطلبة الدارسين فيها، حيث أن أحقية استلام السكن هي للطلبة القادمين من خارج المنطقة الشرقية فقط. ولاستلام السكن عليك عزيزي الطالب/الطالبة مراجعة مكتب الإسكان بالمبنى(82). وتأكد من تعبئة النماذج الخاصة بالاستلام والتسليم. ولن يتم تسليمك سكن ما لم تحضر ما يثبت كونك من خارج المنطقة الشرقية.

(ولمزيد من المعلومات الرجاء مراجعة دليل الطالب على موقع الكلية)

19. Student's Working Rules

يهدف برنامج تشغيل الطلبة داخل مرافق الكلية بنظام الساعات إلى تنمية وصقل مهارات طلبة الكلية، واطلاعهم على الأعمال الإدارية والفنية في مختلف أقسام الكلية والذي من شأنه إكسابهم الخبرة والمهارات المهنية، بالإضافة إلى تعزيز مبدأ أهمية العمل في نفس الطلبة وإعدادهم لخوض غمار مجالات العمل المستقبلية وتحمل المسؤولية في المستقبل. كما يهدف برنامج تشغيل لطلبة داخل مرافق الكلية إلى تنمية الشعور بالانتماء والولاء للكلية ومرافقها.

مقدم الخدمة: قسم شؤون الطلاب، بالتعاون والتنسيق مع الأقسام ذات العلاقة.

الفئة المستفيدة: طلاب وطالبات الكلية

مجالات العمل: مكتبة الكلية – العلاقات العامة - النادي الرياضي (للطلاب) - كافتيريا الكلية - مساعد مدرس (TA) بالأقسام الأكاديمية.

الضوابط:

1. أن يكون الطالب/ الطالبة قد سجل الساعات الدراسية المطلوبة من خلال الفصل الدراسي بحيث لا تقل ساعات الفراغ في الجدول الدراسي عن خمس ساعات أسبوعياً.
2. أن يكون الطالب الطالبة قد أنتهى برنامج الدراسات التحضيرية.
3. ألا يكون الطالب تحت الإنذار الأكاديمي.
4. أن تتاح أولوية فرص التشغيل للطلاب ممن لم يسبق لهم العمل بالبرنامج منذ التحاقهم بالكلية.
5. ألا يتم تشغيل أي طالب/ طالبة سبق له العمل في البرنامج التشغيلي مرتين خلال دراسته في الكلية.
6. يجوز للجنة برنامج التشغيل الطلابي الاستثناء من بعض شروط أولوية الالتحاق في حال كان الطالب/ الطالبة يتميز بقدرات ومهارات معينة ينوي تسخيرها في تدريب زملائه من الطلاب على هذه المهارات.
7. يمكن الطالب/ للطالبة التسجيل في فرصة تشغيل واحدة فقط في الفصل الدراسي الواحد.
8. ألا تزيد ساعات عمل الطالب/ الطالبة عن 22 ساعة ولا تقل عن 22 ساعة خلال الشهر الواحد بواقع ريال للساعة الواحدة، عدا الطلاب العاملين كمساعد مدرس (TA) حيث يحصل على 22 ريال في الساعة.
9. ألا تزيد ساعات عمل الطالب خلال اليوم 3 ساعات، مع مراعاة ما ورد سابقاً بشأن الحد الأدنى والحد الأقصى لساعات العمل خلال الشهر الواحد.

10. تأخر الطالب/ الطالبة في رفع نموذج تسجيل الساعات التشغيلية ومرفقاته قبل نهاية الفصل الدراسي بأسبوعين يعرضه لتأجيل صرف مستحقاته للفصل الذي يليه.

11. إذا ثبت تهاون الطالب/ الطالبة في أداء المهام المكلف بها، يُنهى عمله في البرنامج دون تعويض مادي، ولا يُمكن من العمل في برنامج مرة أخرى.

النماذج المعمول بها في برنامج التشغيل الطلابي:

- نموذج (أ): نموذج التحاق ببرنامج التشغيل الطلابي، يعبأ من قبل الطالب الذي يرغب بالالتحاق.
- نموذج (ب): عقد تشغيل الطالب، ويوقع من قبل القسم المشغل والطالب.
- نموذج (ج): نموذج تسجيل الساعات التشغيلية، يعبأ ويعتمد من رئيس القسم ليتم الرفع به للإدارة المالية من قبل شؤون الطلاب.

المستندات المطلوبة للالتحاق بالبرنامج:

- بطاقة الطالب
- الجدول الدراسي
- نموذج (أ) يحصل الطالب على هذا النموذج او أي معلومة أخرى من قسم شؤون الطلاب.

20. Student's Rights

أولاً: حقوق الطالب في المجال الأكاديمي:

1. حق الطالب أن يوفر له البيئة الدراسية المناسبة لتحقيق الاستيعاب والدراسة بيسر وسهولة من خلال توفير كافة الإمكانات التعليمية المتاحة لخدمة هذا الهدف.
2. حق الطالب في الحصول على المادة العلمية والمعرفة المرتبطة بالمقررات التي يدرسها وذلك وفقاً للأحكام واللوائح التي تحكم العمل الأكاديمي.
3. حق الطالب في الحصول على المادة الخطط الدراسية بالقسم والتخصصات المتاحة له، وكذألك الاطلاع على الجداول الدراسية قبل بدء الدراسة وإجراء تسجيله في المقررات التي يتيحها له النظام وقواعد التسجيل مع مراعاة ترتيب الأولويات في التسجيل للطلاب وفق ضوابط عادلة عند عدم إمكانية تحقيق رغبات جميع الطلاب في تسجيل مقرر ما.
4. حق الطالب في حذف أي مقرر أو إضافة آخر أو حذف الفصل الدراسي بأكمله وفقاً لما يتيحه نظام الدراسة والتسجيل في الكلية وذلك في الفترة المحددة لذلك والمعلن عنها للطلاب.
5. حق الطالب في تقيد أعضاء هيئة التدريس بمواعيد وأوقات المحاضرات واستيفاء الساعات العلمية والمعملية لها وعدم إلغاء المحاضرات أو تغيير أوقاتها إلا في حالة الضرورة وبعد الإعلان عن ذلك على أن يتم إعطاء محاضرات بديلة عن تلك التي تم إلغاؤها أو التغيب عنها من قبل عضو هيئة التدريس لاستيفاء المقرر وذلك بعد التنسيق مع الطلبة والقسم المعني بإتمام ذلك
6. حق الطالب في الاستفسار والمناقشة العلمية اللائقة مع أعضاء هيئة التدريس، دون رقابة أو عقوبة في ذلك علية، مالم يتجاوز النقاش ماتقتضيه الآداب العامة وحدود اللياقة والسلوك في مثل تلك الأحوال سواء كان ذلك أثناء المحاضرة أو أثناء الساعات المكتبية المعلنة لمقابلة الطلاب.
7. حق الطالب في أن تكون أسئلة الاختبارات ضمن المقرر الدراسي ومحتوياته والمسائل التي تمت إثارتها أو الإحالة إليها أثناء المحاضرات، وأن يراعى التوزيع المتوازن والمنطقي للدرجات بما يحقق التقييم العادل لقدرات الطالب.
8. حق الطالب في إجراء كافة الاختبارات التي تعقد للمقرر مالم يكن هناك مانع نظامي يحول دون إجرائها وفقاً للوائح والتعليمات الخاصة بذلك. على أن يتم إعلان الطالب بحرمانه من دخول الاختبار قبل ذلك بوقت كاف.

9. حق الطالب في معرفة الإجابة النموذجية لأسئلة الاختبارات الفصلية وتوزيع الدرجات على أجزاء الإجابة والتي يقوم على أساسها تقييم أداء الطالب قبل إجراء الاختبار النهائي للمقرر.
10. حق الطالب مراجعة إجابته في الاختبار النهائي وذلك وفق ما تقرره اللوائح والقرارات الصادرة في تنظيم آلية تلك المراجعة وضوابطها.
11. حق الطالب في معرفة نتائجه التي حصل عليها في الاختبارات التي أداها بعد الفراغ من تصحيحها واعتمادها.

ثانياً: حقوق الطالب في المجال غير الأكاديمي:

1. التمتع بالرعاية الاجتماعية التي تقدمها الكلية والمشاركة في الأنشطة المقامة فيها وفقاً للوائح وتعليمات الكلية المنظمة لذلك.
2. الحصول على الرعاية الصحية الكافية بالعلاج داخل مجمع الملك فهد الطبي العسكري بالظهران
3. الاستفادة من خدمات ومرافق الكلية (سكن الكلية-المكتبات المركزية والفرعية-الملاعب الرياضية-المطاعم -مواقف السيارات وغيرها ... وذلك وفقاً للوائح والنظم المعمول بالكلية)
4. الحصول على الحوافز والمكافآت المادية المقررة نظامياً لا سيما للطالب المتفوق.
5. الترشيح للدورات التدريبية والبرامج والرحلات الداخلية والخارجية وزيادة مشاركته في الأنشطة الثقافية وكذلك المشاركة في أنشطة خدمة المجتمع المحلي والأعمال التطوعية.
6. الشكوى أو التظلم من أي أمر يتضرر منه في علاقته مع أعضاء هيئة التدريس أو القسم أو الكلية أو أي وحدة من وحدات الكلية، ويكون تقديم الشكوى أو التظلم وفقاً للقواعد المنظمة لوحدة حماية الحقوق الطلابية، وتمكين الطالب من معرفة مصير شكواه من قبل الجهة المسئولة عنها.
7. تمكينه من الدفاع عن نفسه أمام أي جهة بالكلية في أي قضية تأديبية ترفع ضده، وعدم صدور العقوبة في حقه إلا بعد سماع أقواله وذلك مالم يثبت أن عدم حضوره كان لعذر غير مقبول وذلك بعد استدعائه للمرة الثانية.
8. التظلم من القرار التأديبي الصادر ضده وذلك وفقاً للقواعد المقررة في هذا الشأن بموجب أحكام تأديب الطلاب.
9. الحفاظ على محتويات ملفه داخل الكلية ونزاهة التعامل معه وعدم تسليم أي منها إلا للطالب نفسه أو ولي أمره أو من يفوضه بذلك الملف من قبل جهات التحقيق أو أجهزة القضاء أو لجهة حكومية أخرى، ولا يجوز إفشاء أو نشر محتويات ملفه مالم يكن ذلك النشر نتيجة لقرار بعقوبة تأديبية في حق الطالب.
10. حق الطالب من ذوي الاحتياجات الخاصة في الحصول على الخدمة اللائقة والمناسبة لاحتياجاته وفقاً للأنظمة والقواعد المرعية.

Please refer to Student Affairs on the college website for more information:

https://www.psmchs.edu.sa/en/

21. Counseling and Guidance Services

The academic advisor coordinator will assign each faculty with a group of students at the beginning of each semester. A BMT Faculty advisor shall be assigned to guide the students regarding student's academic program. Students are requested to make an appointment with their advisor for each semester before registration or during registration. Students with low performance and CGPA should contact their faculty advisor for information about resources to encourage accomplishment of their studies. Students, who require schedule adjustments, add or drop classes or withdraw from the program, etc. should see an advisor about the appropriate procedure and to understand the impact the changes will make on their overall academic program. The designate advisors should promote communicating with them for any special needs and/or arising problems. The BMT department provides students with effective academic, professional, psychological, and social guidance, and counseling services through qualified staff. Upon enrollment into the BMT program students are assigned to a qualified academic advisor. The academic advisor specifies office hours for the students in the timetable. The academic advisor provides comprehensive orientation at the start of the program. The academic advisor also provides basic information at the starting of the course regarding the facilities and requirements for the students at the start of each semester of the program. Each advisor motivates students; discusses PSMCHS's requirements and campus resources; and indulge in the positive welfare of students outside the classroom.

He collaborates with students and regularly checks on their academic progress. Students is responsible in seeking advices if they need them; attend advisory sessions to review their progress and make choices for registration of courses; monitor their achievements; comply with deadlines; and take advantage of the resources available to them on campus

يعتبر الإرشاد الأكاديمي ركيزة من ركائز التعليم الجامعي وركنًا أساسيًا ومحوريًا في النظام التعليمي، حيث يعد استجابة موضوعية لمواجهة متغيرات اجتماعية واقتصادية وإنسانية في صلب النظام التعليمي وفلسفته التربوية، علاوة على كونه يستجيب لحاجات الدارس ليتواصل مع التعليم الجامعي الذي يمثل نمّاء وطنياً ضرورياً لتحقيق متطلبات الذات الإنسانية في الإبداع والتميز. ووحدة الحقوق الطلابية والتوجيه والإرشاد هي الوحدة المنوط بها توجيه ومتابعة الطلبة خلال دراستهم الجامعية وتوفير الخدمات الإرشادية المتنوعة لهم بصورة منظمة وفق أسس ومبادئ مدروسة وواضحة. وليكون دور الإرشاد الأكاديمي فعالا لابد من مشاركة جميع أطراف العملية التعليمية بهدف توجيه الطلبة إلى أفضل السبل لتحقيق النجاح المنشود والتكيف مع بيئة الكلية عن طريق تزويد الطلبة بالمهارات الأكاديمية المتنوعة التي ترفع من تحصيلهم الدراسي و طموحاتهم العلمية .ونظرا لأهمية وجود نظام إرشاد وتوجيه أكاديمي وخطة واضحة لتنفيذه واستجابة للمتغيرات العالمية في مجال التعليم والأخذ بنظام توكيد الجودة والاعتماد الأكاديمي في العملية التعليمية واستجابة للاحتياجات التي تعكسها التغذية الراجعة من سوق العمل، فإنه بات ملزما وجود وحدة الحقوق الطلابية والتوجيه والإرشاد تتولى القيام بهذه المهام وتسند لها الاختصاصات اللازمة للقيام بعملها.

الأهداف:

تسعى وحدة الحقوق الطلابية والتوجيه والإرشاد في كلية الأمير سلطان العسكرية للعلوم الصحية إلى تحقيق الأهداف التالية:

- تهيئة الطلبة للتعرف والتأقلم مع حياة الكلية وكيفية التعامل معها.
- تزويد الطلبة بالمعلومات الصحيحة عن الكلية والسياسات التعليمية والموارد والبرامج الدراسية.
- تعزيز التحصيل الأكاديمي للطلبة، ورفع قدراتهم وتذليل العقبات التي تعتريهم أثناء تحصيلهم العلمي.
- تقليل فرص التعثر الأكاديمي (إرشاد وقائي وإرشاد علاجي وإرشاد تنموي).
- تقديم المشورة والمساعدة لأصحاب المشكلات الأكاديمية من طلبة الكلية.
- ورعاية الطلبة ذوي التحصيل الدراسي المتدني والمتعثر والاهتمام بهم ومتابعتهم حتى يرتقوا بمستواهم الدراسي.
- الاهتمام بالطلبة المتفوقين والموهوبين وتقديم ما من شأنه تعزيز قدراتهم ودعم إبداعاتهم.
- نشر الوعي باللوائح الأكاديمية وسط الطلبة.
- توعية الطلبة بالصعوبات الأكاديمية والمهارات الدراسية وكيفية إعداد الخطط الدراسية وجدول تنظيم الوقت وإكسابهم مهارات ترفع من تحصيلهم الأكاديمي وتحقق توافقهم الشخصي.
- مساعدة الطلبة على اختيار التخصص المناسب وفقا لإمكاناتهم وميولهم العلمية.
- الارتقاء بمستوى التوجيه والإرشاد الأكاديمي من خلال توفير مرشدين متميزين ومدربين على حل جميع المشكلات الناشئة عند الطلاب اثناء تحصيلهم الدراسي

22. Code of Ethics (Behavior)

As students of Biomedical Technology, will apply the following Code of Ethics to our actions toward patients, physicians, and hospital personnel in our clinical program and in our future work. This code will apply to our personal as well as professional attitudes and conduct.

As Professionals, we will:

- Assume a professional manner in attire and conduct.
- Treat our fellow humans with care, dignity and patience.
- Establish a rapport with hospital staff, supervisors, and physicians.
- Hold in confidence information relating to patients
- Strive for increased efficiency and quality through organization
- Be willing to accept responsibility for our own work.
- Strive to learn the theories of laboratory determinations.
- Establish confidence of the patient through kindness and empathy.

In personal conduct, we will:

- Achieve the highest degree of honesty and integrity.
- Maintain adaptability in action and attitude.
- Establish a sense of fraternity among fellow students
- Strive to have a pleasant manner in the department and with the patients
- Remember that we are College as well as Biomedical Technology students; therefore, we should strive to be educated individuals outside our technical field and uphold the highest standards of respect to our fellow man.

أولاً: التزامات الطالب في المجال الأكاديمي:

1. التزام الطالب بالانتظام في الدراسة والقيام بكافة المتطلبات الدراسية في ضوء القواعد والمواعيد المنظمة لبدء الدراسة ونهايتها والتحويل والتسجيل والاعتذار والحذف والإضافة، وذلك وفقاً للأحكام الواردة باللوائح والأنظمة السارية.
2. التزام الطالب باحترام أعضاء هيئة التدريس والموظفين والعمال من منسوبي الكلية وغيرهم من منسوبي الشركات المتعاقدة مع الكلية، وغيره من الطلاب داخل الكلية وكذلك الضيوف والزائرين لها وعدم التعرض لهم بالإيذاء بالقول أو الفعل بأي صورة كانت.
3. التزام الطالب باحترام القواعد والترتيبات المتعلقة بسير المحاضرات والانتظام فيها وعدم التغيب عنها إلا بعذر مقبول وفقاً للوائح والنظم.
4. التزام الطالب عند إعداد البحوث والمتطلبات الدراسية الأخرى للمقررات بعدم الغش فيها أو المشاركة فيه عند إعدادها بأي صورة كانت أو نسبة عمل الغير إلى الطالب أو اللجوء إلى أي وسائل غير مشروعة لإعداد تلك البحوث والتقارير والأوراق والدراسات أو غيرها من المتطلبات الأساسية للمقرر.
5. التزام الطالب بالقواعد والترتيبات المتعلقة بالاختبارات والنظام فيها وعدم الغش أو محاولته أو المساعدة في ارتكابه بأي صورة من الصور أو التصرفات أو انتحال الشخصية أو التزوير أو إدخال مواد أو أجهزة ممنوعة في قاعة الاختبار أو المعامل.
6. التزام الطالب بالإرشادات والتعليمات التي يوجهها المسئول أو المراقب في قاعة الاختبارات أو المعامل وعدم الإخلال بالهدوء أثناء أداء الاختبارات.

ثانياً: التزامات الطالب في المجال غير الأكاديمي:

1. التزام الطالب بأنظمة الكلية ولوائحها وتعليماتها والقرارات الصادرة تنفيذاً لها وعدم التحايل عليها أو انتهاكها أو تقديم وثائق مزورة للحصول على أي حق أو ميزة خلافاً لما تقتضي به الأحكام ذات العلاقة.
2. التزام الطالب بحمل بطاقة الكلية أثناء وجوده في الكلية وتقديمها للموظفين أو أعضاء هيئة التدريس عند طلبها من قبلهم وعند إنهاء أي معاملة للطالب داخل الكلية.
3. التزام الطالب بعدم التعرض لممتلكات الكلية بالإتلاف أو العبث بها أو تعطيلها عن العمل أو المشاركة في ذلك سواء ما كان منها مرتبطاً بالمباني أو التجهيزات.
4. التزام الطالب بالتعليمات الخاصة بترتيب وتنظيم واستخدام مرافق الكلية وتجهيزاتها للأغراض المخصصة لها ووجوب الحصول على إذن مسبق من الجهة المختصة لاستعمال تلك المرافق أو التجهيزات عند رغبة استخدامها أو الانتفاع منها في غير ما أعدت له.
5. التزام الطالب بالزي والسلوك المناسبين للأعراف الأكاديمية والإسلامية، وبعدم القيام بأية أعمال مخلة بالأخلاق الإسلامية أو الآداب العامة المرعية داخل الكلية.
6. التزام الطالب بالهدوء والسكينة داخل مرافق الكلية والامتناع عن التدخين فيها وعدم إثارة الإزعاج أو التجمع غير المشروع أو التجمع المشروع في غير الأماكن المخصصة لذلك.

23. Dress Code

The students must follow college rules and regulation regarding the dress code that will reflect the professional discipline required to work in health care areas. The students must adhere to the following dress code instructions in the college:

- **For Males:**
  - 1st Year: Dark blue (Ceil) uniform with white Lab Coat in the labs.
  - Clinical Years: Light blue (Royal) uniform with white Lab Coat in the labs.
  - Colors are shown in the picture below:

- For Females:
  - 1st Year: Purple (Eggplant) uniform (loose fitting).
  - Clinical Years: Turquoise uniform (loose fitting).
  - Note: Females must wear the Lab Coat all the times in the college.
  - Colors are shown in the picture below:

24. College Facilities

1. مكتبة الكلية :

تقدم مكتبة الكلية الخدمات التالية: المراجع، الدوريات العلمية، الصحف، الأشرطة الصوتية والمرئية، الاقراص المدمجة والأطالس وتحتوي المكتبة العامة على جميع الكتب الثقافية العامة وتقوم الكلية بتقديم الخدمات التالية: المراجع العامة، التوعية بالمستجدات، النسخ، المقالات الدورية توفير الكتب للأغراض الأكاديمية، المعلومات الصوتية والمرئية وخدمة الإنترنت

2. قاعات الندوات العلمية :

جهزت القاعات لأغراض متعددة منها عقد الندوات واللقاءات العلمية والمحاضرات وغيرها من الأنشطة التعليمية والثقافية والاجتماعية وتستوعب القاعة الصغرى 87 شخصا بينما تستوعب القاعة الكبرى 181 شخصا

3. المكافأة الشهرية:

يمنح الطالب المنتظم في الدراسة مكافأة شهرية حسب أنظمة المكافآت للطالب المعمول في وزارة التعليم العالي.

4. المركز الترفيهي :

يتوفر في هذا المركز صالة لتنس الطاولة والبلياردو، صالة ألعاب القوى واللياقة البدنية وكافتيريا وصالة البولنج ومكتبة صغيرة في الطابق تحت الأرضي وإضافة إلى مكتب الاستقبال توجد استراحة ومطعم، أما الطابق العلوي فيحتوي على قاعة كبرى للندوات والمحاضرات ويتم استخدامها حسب أنظمة المجمع.

5. صالة الألعاب الرياضية المغلقة :

تقع بجوار المهاجع وتمارس فيها رفع الأوزان الثقيلة بأحدث الأجهزة وممارسة الرياضة السويدية وفيها العديد من الأنشطة الرياضية المختلفة للياقة البدنية.

6. صالة اللياقة البدنية وغرفة الألعاب بالكلية :

تقع في الدور الارضي في المبني (82-1، 82-2) وتمارس فيها الأنشطة الترفيهية مثل تنس الطاولة والبلياردو كما تحتوي على العديد من الأجهزة الرياضية لممارسة العديد من الأنشطة الرياضية.

7. الملاعب:

توجد ملاعب خاصة بالطلبة لممارسة الألعاب الرياضية مثل التنس وكرة القدم وكرة السلة وكرة الطائرة كما يوجد ملاعب للأنشطة الرياضية المختلفة بالمعسكر الخارجي للكلية تقام عليها المنافسات والبطولات المختلفة.

8. المسبح:

يقع مسبح الرجال بالقرب من المركز الترفيهي كما توجد غرفة لتبديل الملابس وغرف لساونا حيث طول المسبح 16 م وعمق 1-2م ويعمل يوميا الساعة 10 ص 2 ظهرا عدا يوم الثلاثاء.

9. المطعم:

يوجد مطعم لخدمة طلاب الكلية ويوفر ثلاث وجبات وتقدم بشكل دوري على أرقى وأفضل الوجبات.

10. السوق المركزي :

يوفر السوق المركزي الواقع بالقرب من مركز الترفيه كل ما يحتاج الطالب من مواد غذائية ومواد مكتبية.

11. صالون الحلاقة :

يمكن الاستفادة من خدمات صالون الحلاقة وموقعه بجوار السوق المركزي.

12. وكالة السفر :

تقدم هذه الوكالة والتي تقع بالقرب من المركز الترفيهي خدمات الحجز، علما بأنه يمكنك الحصول على تذكرة مخفضة حسب تعليمات الخطوط السعودية بعد تعبئة استمارة التخفيض من مكتب شئون الطلاب.

13. البريد:

تقع وحدة البريد بجوار السوق المركزي حيث يتم استقبال الرسائل هناك من 8 ص الى 2م يوميا عدا الخميس.

14. الخدمة الطبية :

يمكن للطالب مراجعة المستشفى خارج أوقات حصص الدراسة وتلقي العلاج حسب تعليمات المنظمة لذلك بعد أن يفتح ملف له خاص ويحمل بطاقة طبية ولابد من ابرازها قبل المعاينة. ويمكن للطالب الحصول على البطاقة الطبية حسب الإجراءات المتبعة وسيبلغ بها الطالب في بداية الفصل الأول من دراسته بالكلية.

15. الاتصال :

لغرض طلب مكالمة داخل المجمع يمكنك الاتصال بأي رقم من داخل الكلية أو المجمع، للمكالمات المحلية والدولية عليك استخدام التليفونات الدولية بجوار المركز الترفيهي، أما البرقيات فيمكن استعمال النموذج الخاص المتوفر في البريد. أيضا بشأن الرسائل المسجلة حيث يقوم بمهمة إرسال الرسائل مقابل إيصال يستلمه المرسل في وقت لاحق وللرسائل العادية أو المسجلة يطلب التقيد بالنظام العالمي لكتابة عنوان المرسل والمرسل إليه.

16. خدمات الصيانة :

في حالة حدوث أية أعطال داخل السكن يمكن الاتصال بمسئول إسكان الكلية مباشرة وإبلاغ (6767) وفي خارج أوقات الدوام الرسمي يمكن الاتصال على جهاز النداء رقم (1367).

25. Dean's List Award

جائزة قائمة العميد الشرفية :

جائزة قائمة العميد الشرفية هي جائزة سنوية تمنح من قبل قائد كلية الأمير سلطان العسكرية للعلوم الصحية بالظهران للطلاب المتميزين أكاديمياً وسلوكياً وفق معايير محددة.

رسالة الجائزة :

"إعداد خريجين متميزين أكاديمياً وسلوكياً ومسؤولين مجتمعياً من خلال التشجيع وبث روح المنافسة والتقدير المبني على المعايير".

رؤية الجائزة :

"التنافس والسعي إلى التميز أحد السمات الأساسية لخريجي الكلية"

أهداف الجائزة:

تهدف الجائزة من خلال تنفيذها في الكلية الى:

1. إرساء مبدأ التشجيع والتقدير والاعتراف للطلاب المتميزين.
2. تحقيق التميز بجميع جوانب الكلية من خلال إسهامات الطلاب.
3. تعزيز فرص توظيف الطلاب من خلال بناء قدراتهم التنافسية.
4. تعزيز المهارات الطلابية أكاديمياً وبحثياً ومجتمعياً.
5. المساهمة في تنمية المجتمع من خلال تزويده بخريجين متميزين.

شروط الترشح لجائزة قائمة العميد الشرفية:

1. أن يكون الطالب من بين طلاب الكلية المسجلين في وقت الترشح.
2. ان يكون الطالب ملتزم بالخطة الدراسية المقررة للقسم الأكاديمي او للسنة التحضيرية، وان لا يتجاوز المدة المحددة لإنهاء دراسته.
3. ألا يكون الطالب قد قل معدله عن (3.2) في جميع الفصول الدراسية التي درسها بما فيها الفصل الصيفي.
4. أن يكون الطالب قد حصل على معدل تراكمي لا يقل عن (4.22) في العام الذي ترشح فيه.
5. ألا يقل تقدير الطالب عن (C)في جميع المقررات التي درسها منذ التحاقه بالكلية.
6. ألا يكون الطالب قد صدر بحقه أي عقوبات تأديبية نظير مخالفته للقواعد الأكاديمية أو السلوكية.
7. ألا يكون الطالب قد صدر بحقه أية عقوبات قانونية من قبل الجهات المختصة بالمملكة.

26. Alumni

يعمل قسم المتابعة والتوظيف للخريجين على توفير فرص العمل ومتابعة الخريجين بعد التخرج ويمكن مراجعة القسم لمزيد من المعلومات

هذه قائمة ببعض أماكن العمل لخريجي القسم:

- مستشفى القوات المسلحة بالهدأ
- مستشفى القوات بجدة
- مستشفى القوات المسلحة بالجبيل
- مستشفى القوات المسلحة بالحفر
- مدينة الأمير سلطان الطبية بالرياض
- مستشفى الملك فهد التخصصي بالدمام
- مستشفى الأمير منصور بالطائف للقوات المسلحة
- مستشفى القوات المسلحة بالقصيم
- مستشفى القوات المسلحة بالمدينة المنورة
- كلية الأمير سلطان العسكرية للعلوم الصحية بالظهران
- مستشفى الأمير سلطان للقوات المسلحة بالطائف
- مجمع الملك فهد الطبي العسكري بالظهران
- مستشفى الهيئة الملكية بالجبيل
- مستشفى الحرس الوطني بالأحساء
- مستشفى الدمام المركزي
- مستشفى القوات المسلحة بتبوك
- جامعة الملك سعود بالرياض
- جامعه الإمام عبدالرحمن بن فيصل
- مستشفى الملك فهد التخصصي بالدمام
- مستشفى ارامكو (جون هوبكنز)
- مستشفى الملك فيصل التخصصي بالرياض
- مستشفى القوات المسلحة بالظهران -قاعدة الملك عبد العزيز-
- المستشفى العسكري بالمؤسسة العامة للصناعات الحربية
- مستشفى القوات المسلحة بجازان
- مستشفى الملك فهد العسكري بخميس مشيط
- مستشفى القوات المسلحة بوادي
- مستشفى الحرس الوطني الرياض

27. Department Contact Information

NAME	Position	Ext.
Dr. Emad Malaekah	Chair of Department/ Assistant Professor	6250
Lt. Col. Dr. Othman Alfahad	Assistant Professor	4524
Dr. Khaldoun Khayyat	Assistant Professor	5504
Dr. Husham Saied	Assistant Professor	6252
Capt. Ahmed Al Rashdi	Lecturer	5445
Capt. Saeed AlQahtani	Lecturer (Sch.)	6255
Mr. Suvad Selman	Lecturer	5506
Eng. Adel Sayed Saba Gadallah	Demonstrator	6251
Eng. Abdullah AlTamimi	Demonstrator (Sch.)	2967
Eng. Ziad Al Bitty	Demonstrator (Sch.)	6255
Eng. Osamah Alshehri	Demonstrator (Sch.)	6550
Mr. Abdulaziz Alharbi	Lab Technician	6965