

Students Selected Components (SSCs)-

A guide for students and teachers



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Introduction

Student Selected Components (SSCs) are an established feature of the undergraduate medical curriculum throughout the United Kingdom and some medical schools throughout the world. The SSCs were initially in the UK in the early 90s and were called Special study modules (SSMs) at the start of their introduction. It offers students personal, academic, and professional growth and development choices. However, this program varies between schools but the major learning objectives remain broadly the same. This program provides diverse opportunities for students to explore future career options.

The SSCs address some of the key non-academic elements in medical education including developing mentoring and teaching skills, time management, utilizing resources effectively, and most importantly, exploring knowledge and skills based on curiosity.

The recently introduced evaluation document by Pakistan Medical Commission has inculcated a separate requirement inquiring about the SSCs and electives in the curriculum document.

Aims and objectives

The main aims of this program include studying different topics of particular interest outside of the core curriculum, developing confidence in their own skills and abilities, acquiring research communication and self-directed learning skills, and considering their own career paths.

Implementation

The program needs to be started from the next academic session of 2022-23. The students will work individually or in groups depending upon the type of courses. The students will need a supervisor in the college/hospitals or outside depending upon the type of courses. The students will be allowed to choose the course of their own choice, at their own time, and their own pace based on the availability of venues. The courses will be chosen at different years by the students. The students will be advised to complete the course within the summer vacations in years 4 and 5. Details of the courses are given in the topics mentioned in the next section.

Courses offered in SSCs

The following courses are offered in the Student Selected Components for years 4 and 5 of MBBS students in KMC.

SURGERY AND ALLIED

1. Minimal access surgery including bariatric surgery
2. Surgical critical care (rotation to surgical ICU)
3. Breast and reconstructive surgery
4. Surgical emergencies including head injuries
5. Endo-urology
6. Pediatric Orthopedics
7. Diagnostic Radiology
8. Interventional radiology
9. Elective general surgery in a private health care environment (IBP MTI)
10. Hand and Reconstructive Surgery

MEDICINE AND ALLIED

1. Medical emergencies (A&E department)
2. Medical critical care (rotation to medical ICU)
3. Cardiology / CCU

4. Pulmonology
5. Endocrinology
6. Gastroenterology
7. Neurology
8. Nephrology

COMMUNITY-BASED HOSPITAL ROTATIONS

1. BHUs
2. RHCs
3. Tehsil Headquarter Hospitals

MEDICAL RESEARCH

1. Participation in health research activities (evidence of approval of research paper in a journal. This activity will be open for students of any year)

ATTACHMENTS IN ANY REGISTERED PHARMACY (CERTIFICATE FROM THE PHARMACIST)

BASIC NURSING SKILLS (CERTIFICATE FROM THE INCHARGE OF NURSING)

MEMBERS OF SOCIAL WELFARE SOCIETY KMC

SURGERY AND ALLIED

S. No	SSC Module	Duration	Number of students	Venue	Rationale/ Need assessment	General Learning Objectives	Teaching methodology	Assessment/Certification
1.	Minimal Access Surgery (MAS) Including Bariatric Surgery	04weeks	04 Students 01 per unit	Department of Surgery in a tertiary care hospital	<ul style="list-style-type: none"> Minimal Access Surgery is a gold standard approach for many surgical procedures throughout the world. Morbid obesity is a well-established emerging problem. Acquaintance with this approach is of paramount importance for the students to thrive in the competitive environment at the national and international levels. Surgical rotations in minimal access surgery in the student-selected 	<ul style="list-style-type: none"> Describe the advantages of MAS Learn how to write Daily Progress Report (DPR) according to Subjective-Objective-Assessment-Plan (SOAP) note Acquire PowerPoint presentation skills Perform various tasks on laparoscopic trainer Understand the basic ethics/etiquette of scrubbing, gowning, and gloving Observe and assist Supervisor in real-time basic MAS 	<ul style="list-style-type: none"> Lectures on basic laparoscopy (PowerPoint presentations) Self-directed learning (SDL) Bedside teaching Small Group Discussion (SGD) Case-based learning (CBL) Simulation with laparoscopic trainer Videos on laparoscopic surgery Roleplay for attitudes Role modeling for professionalism 	<ul style="list-style-type: none"> Formative assessment by a certificate of good standing by the Supervisor Submission of reflection following the Gibbs Reflective cycle daily. 80% attendance is a must for successful completion of the module

					component can help our students achieve international health standards	<ul style="list-style-type: none"> • Develop communication skills to interact professionally with patients and colleagues • Demonstrate empathy. 		
2.	Surgical Critical Care (Rotation to Surgical ICU)	04 weeks	02 Students	Surgical ICU of a tertiary care hospital	<ul style="list-style-type: none"> • Although Surgical Critical care is a fundamental part of under and post-graduate training, it has been neglected in our settings at both levels. • Unfortunately, there are very few specialized people in the field because of a lack of awareness about surgical critical care. Globally there is a high demand for such people • An insight into the various aspects of surgical critical care including invasive 	<ul style="list-style-type: none"> • Understand the basic knowledge and principles of surgical critical care • Learn how to write Daily Progress Report (DPR) according to Subjective-Objective-Assessment-Plan (SOAP) criteria • Acquire PowerPoint presentation skills • Understand the criteria for admission and discharge from surgical ICU • Discuss the indications of a ventilator and its different modes of ventilation and TPN • Observe how to 	<ul style="list-style-type: none"> • Lectures on basic ICU care • SGDs • SDL • Directed Self Learning(DSL) • Bedside Teaching • Videos on ventilator support, CVP line insertion, and ABGs sampling. • Simulation for invasive procedures • Roleplay and videos for breaking bad news and counseling • Role modeling demonstrating medical professionalism. 	<ul style="list-style-type: none"> • Formative assessment by a certificate of good standing by the Supervisor • Submission of reflection following the Gibbs Reflective cycle daily. • 80% attendance is a must for successful completion of the module

					<p>monitoring, ventilator support, TPN, and interpretation of ABGs is of paramount importance for an undergraduate who may pursue a career as an Intensivist.</p>	<p>Interpret ABGs, put a patient on a ventilator and wean off and calculate TPN.</p> <ul style="list-style-type: none"> • Observe and assist in passing the CVP line and Arterial sampling for ABGs • Develop and execute necessary communication skills professionally in the SICU setting. • Demonstrate empathy • Observe and assist in breaking bad news and counseling regarding ventilator support and its discontinuation in patients with brain death. 		
3.	Breast and Reconstructive Surgery	04 weeks	04 students 01 per consultant in the hospital and IBP	Department of Surgery in a tertiary care hospital	<ul style="list-style-type: none"> • In our society female patients feel reluctant to consult with a male surgeon regarding their breast-related problems. 	<ul style="list-style-type: none"> • Discuss the Embryology, Anatomy, and Physiology of Breast. • write Daily Progress Report (DPR) according 	<ul style="list-style-type: none"> • Lecture • Bedside teaching • SGDs • SDL • DSL • Case-based learning • Simulations • Videos on various 	<ul style="list-style-type: none"> • Formative assessment by a certificate of good standing by the Supervisor • Submission of reflection following the Gibbs Reflective cycle daily. • 80% attendance is a must for successful completion of

					<ul style="list-style-type: none"> • More than 50% of the final-year students are usually females. • Breast cancer is quite a common problem among females in our society. • The predilection of female patients for female surgeons demands a higher number of female surgeons. • This module in the SSC for final-year students especially female students may prove very helpful. • Our department of surgery is privileged with a faculty dedicated to breast and reconstructive surgery in addition to other surgical procedures and this provides an ideal opportunity for undergraduate students to have 	<p>to Subjective-Objective-Assessment-Plan (SOAP) note</p> <ul style="list-style-type: none"> • Acquire PowerPoint presentation skills • Differentiate between different breast lumps and pathologies. • Suggest and discuss specific investigations for breast-related problems including ultrasound, mammogram, FNAC, and trucut biopsy • Discuss the importance of triple assessment in the diagnosis of breast lumps • Discuss the various operations performed on the breast including excision biopsy, incision biopsy, wide local excision, and 	<p>procedures and operations</p> <ul style="list-style-type: none"> • Roleplay • Videos on counseling and consent • Role modeling demonstrating medical professionalism 	<p>the module</p>
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					<p>an insight into breast-related problems which might help them excel in the same super specialty after graduation.</p>	<p>MRM with axillary lymph node dissection</p> <ul style="list-style-type: none"> • Discuss the various techniques for Breast reconstruction • Demonstrate the steps in FNAC, trucut biopsy, stereotactic biopsy, and excision biopsy in a simulated environment • Demonstrate empathy towards patients with breast cancer • Disclose bad news to the patient with breast cancer • Consent patient for MRM. 		
4.	Surgical emergencies including head injuries	04 weeks	04 students 01 per unit	Department of Surgery, Orthopedics, and Neurosurgery in a tertiary care hospital	<ul style="list-style-type: none"> • There is a tremendous workload of trauma, road traffic accidents, head injuries and acute surgical emergencies in our setup which provides ample learning 	<ul style="list-style-type: none"> • Discuss the pathophysiology of trauma, SIRS, sepsis, various types of shocks, MODS, head injury, peritonitis, fractures and healing. • write Daily 	<ul style="list-style-type: none"> • Lectures • SGDs • SDL • DSL • Bed side teaching • Videos on various emergency surgical procedures • Simulation for various emergency surgical procedures 	<ul style="list-style-type: none"> • Formative assessment by a certificate of good standing by the Supervisor • Submission of reflection following the Gibbs Reflective cycle daily. • 80% attendance is a must for successful completion of the module

					<p>opportunities to students over a wide range of surgical emergencies.</p> <ul style="list-style-type: none"> • Unfortunately, in the current core curriculum, the final year students do not have a clinical rotation to the A&E department to see this wide range of trauma/head injuries and surgical emergencies. • This module in the SSC might prove very fruitful in the enhancement of knowledge, skills, and attitudes of final year students in the management of these conditions. • It may also encourage and motivate these students to pursue their careers as an A&E specialists in the future. 	<p>Progress Report (DPR) according to Subjective-Objective-Assessment-Plan (SOAP) note</p> <ul style="list-style-type: none"> • Acquire PowerPoint presentation skills • Describe differentials of acute abdomen • Outline the general principles of management of acute abdomen. • Discuss various types of fractures and their treatment. • Classify various types of head injuries and discuss their principles of management • Demonstrate IV cannulation, Foley's catheterization, nasogastric intubation, back slab, and POP cast, positioning the patient on spine board for 	<p>on models and mannequins.</p> <ul style="list-style-type: none"> • Roleplay for log rolling, positioning patients on spine board and primary survey • Roleplay for demonstrating counseling, breaking bad news, and consent. • Video clips demonstrating counseling, breaking bad news, and consent. • Role modeling to demonstrate medical professionalism 	
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					<ul style="list-style-type: none"> • Also Accidents & Emergency has emerged as an independent subspecialty around the world which they can further explore and choose as a future career. 	<ul style="list-style-type: none"> • transfer. • Demonstrate emergency endotracheal intubation, surgical cricothyroidotomy, emergency tracheostomy, CVP line insertion, and chest intubation in simulated settings. • Demonstrate empathy to trauma patients. • Disclose bad news to attendants. • Consent patients for surgical procedures. • Develop and execute necessary communication skills professionally. 		
5.	Endo-urology	04 weeks	02 Students	Department of Urology in a tertiary care hospital	<ul style="list-style-type: none"> • Over the past two to three decades, general urology has established itself as a separate specialty which has reduced the workload on 	<ul style="list-style-type: none"> • Discuss the embryology, anatomy, physiology and pathologies of urogenital system. • Discuss various common 	<ul style="list-style-type: none"> • Lectures • Bedside teaching • SGDs • One minute preceptor (OMP) • CBL • SDL • DSL • Simulation in clinical 	<ul style="list-style-type: none"> • Formative assessment by a certificate of good standing by the Supervisor • Submission of reflection following the Gibbs Reflective cycle daily. • 80% attendance is a must for successful completion of the module

					<p>general surgery.</p> <ul style="list-style-type: none"> • This transition of urology has led to further evolution of super specialties in the field like pure endourology and pediatric urology. • Since the workload of urological conditions is exuberant, there may be ample learning opportunities for undergraduates. • During elective rotations in general surgical units, the students do not have exposure to recently advanced endourological procedures. • Our hospital is lucky enough to have well trained endourologist and pediatric urologist. • This SSC module for final-year 	<p>urological conditions.</p> <ul style="list-style-type: none"> • write Daily Progress Report (DPR) according to Subjective-Objective-Assessment-Plan (SOAP) note • Acquire PowerPoint presentation skills • Suggest important urological investigations according to indications. • Observe and assist in basic urological procedures like PCN, Double J stenting and diagnostic cystoscopy. • Perform Foley's catheterization on real patients. • Demonstrate empathy to patients. • Demonstrate counseling, breaking bad news and consent patients 	<p>skills lab</p> <ul style="list-style-type: none"> • Videos demonstrating various urological procedures, counseling, consent and communication skills. • Roleplay for breaking bad news, counseling and consent. • Role modeling showing thorough medical professionalism in all three domains of learning. 	
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					<p>students may enhance their understanding of endo and pediatric urology and help them explore their areas of interest in the future.</p>	<p>for various urological procedures.</p> <ul style="list-style-type: none"> • Exhibit thorough professionalism through better communication towards patients, colleagues, juniors, and nursing staff. • Document their work in the form of a manuscript to develop research skills. 		
6.	Pediatric Orthopaedics	04 weeks	Individual	<p>Department of Orthopedic Surgery in a tertiary care hospital</p>	<ul style="list-style-type: none"> • Orthopedic Surgery is a vast specialty with high patient load due to trauma caused by Road Traffic Accidents etc • Pediatric orthopedics has a high demand due to less number of orthopedic surgeons specializing in the field and thus a lot of pediatric patients with orthopedic 	<ul style="list-style-type: none"> • Describe the basic principles of general orthopedics. • Discuss the embryology and anatomy of the musculoskeletal system and pathogenesis of congenital orthopedic conditions like DDH, club foot, etc. and infections and tumors • Discuss the different pediatric orthopedic 	<ul style="list-style-type: none"> • Lectures • Bedside Teaching • SGD • DSL • DSL • CBL • Videos demonstrating various basic orthopedic procedures, counseling skills and Consent for procedures • Simulation of different procedures on models in a skills lab • Roleplay for counseling, breaking bad news, and 	<ul style="list-style-type: none"> • Formative assessment by a certificate of good standing by the Supervisor • Submission of reflection following the Gibbs Reflective cycle daily. • 80% attendance is a must for successful completion of the module

					<p>issues do not get specialized treatment.</p> <ul style="list-style-type: none"> • The students must have exposure to pediatric orthopedic conditions like DDH, knee and hip deformities and bone tumors common in pediatric populations apart from General Orthopedic conditions that they see in the wards as part of the core curriculum • The hospital has a competent surgeon specialized in pediatric orthopedic surgery • The students in this selected component will have this chance of becoming abreast with pediatric orthopedic 	<p>conditions like developmental dysplasia of the hip, club foot deformity, osteomyelitis and tumors of the musculoskeletal system</p> <ul style="list-style-type: none"> • write Daily Progress Report (DPR) according to Subjective-Objective-Assessment-Plan (SOAP) note • Acquire PowerPoint presentation skills • Suggest the different investigations to diagnose several pediatric orthopedic conditions • Observe and assist in a number of basic skills like splinting, and casting. • Observe and assist in basic procedures like splints, POP casts 	<p>consent</p> <ul style="list-style-type: none"> • Role modeling thorough professionalism and interpersonal coordination. 	
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					<p>conditions and avail the chance to explore that in future as a super specialty</p>	<p>and backslabs</p> <ul style="list-style-type: none"> • Observe different types of implants used in pediatric trauma and bony deformities. • Demonstrate empathy to parents with congenital and acquired conditions • Counsel patients and their parents regarding the disease and counsel them for different procedures • Develop research skills by proper documentation of their work in the form of a manuscript. 		
7.	Diagnostic Radiology	04 weeks	02 Students	Department of Radiology in a tertiary care hospital	<ul style="list-style-type: none"> • No specialty is complete without the help of diagnostic radiology as most of the diseases require radiological investigations for diagnosis. • From humble radiographs of 	<ul style="list-style-type: none"> • Discuss the anatomy, relevant physiology, technical aspects of basic radiological modalities like conventional radiology, Ultrasound, CT and MRI. 	<ul style="list-style-type: none"> • Lectures • SGDs • DSL • SDL • CBL • Video lectures • Videos explaining radiological diagnostic procedures • Demonstration of procedure on 	<ul style="list-style-type: none"> • Formative assessment by a certificate of good standing by the Supervisor • Submission of reflection following the Gibbs Reflective cycle daily. • 80% attendance is a must for successful completion of the module

					<p>the chest and bone to state-of-the-art multidetector Computed Tomography (CT) scan, functional Magnetic Resonance (MR) imaging, and positron emission tomography (PET), radiologic images constitute the principal venue through which practicing physicians encounter their patient's internal anatomy and physiology.</p> <ul style="list-style-type: none"> • Students need to acquire basic understanding of radiology and its interpretation so that they are adequately prepared for post graduate training and/or practice 	<ul style="list-style-type: none"> • Describe the basic principles of diagnostic radiology • Compare and contrast the benefits and limitations of different radiologic modalities. • Acquire PowerPoint presentation skills • Discuss the use of contrast media, their dosage and their contraindications • Perform basic radiological examinations like diagnostic ultrasound, fluoroscopic examinations and contrast studies • Observe and assist in procedures like ultrasound guided fine needed aspiration cytology (FNAC), Ultrasound 	<p>simulated patients in a skills lab.</p> <ul style="list-style-type: none"> • Roleplay for counseling and breaking bad news • Role modeling exhibiting professionalism and ethics 	
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					<ul style="list-style-type: none"> • Consider a career in the field in their future as much as it applies to their interests, strengths and their weaknesses. 	<p>guided and fluoroscopic biopsy.</p> <ul style="list-style-type: none"> • Consent patients for diagnostic radiological procedures. • Demonstrate empathy with patients • Demonstrate professionalism in their interpersonal communication as a team member of the diagnostic radiology team. 		
8.	Interventional Radiology	04 weeks	02 Students	Department of Radiology in a tertiary care hospital	<ul style="list-style-type: none"> • Radiology has evolved substantially by the advent of interventions for the treatment of a continuum of diseases related to every specialty • Interventional radiology is a rare specialty in this region • Our hospital is equipped enough to have a 	<ul style="list-style-type: none"> • Describe the basic principles of interventional radiology • Understand the advantages of interventional radiology. • To discuss the anatomy of the whole body and discuss the technical aspects of basic modalities like CT and Ultrasound 	<ul style="list-style-type: none"> • Lectures • SGDs • DSL • SDL • CBL • PBL • Videos demonstrating different radiological interventions, counselling and breaking bad news • Simulation of the interventions on mannequins in a skills lab • Roleplay for 	<ul style="list-style-type: none"> • Formative assessment by a certificate of good standing by the Supervisor • Submission of reflection following the Gibbs Reflective cycle daily. • 80% attendance is a must for successful completion of the module

					<p>trained interventional radiologist</p> <ul style="list-style-type: none"> • Students do not rotate in interventional radiology as part of their core curriculum • The students have a chance to get abreast with these interventions and adopt a future career in the field 	<ul style="list-style-type: none"> • Acquire PowerPoint presentation skills • Discuss the proper perioperative workup and management of patients undergoing imaging-guided procedures. • Learn the indications and contraindications of commonly performed interventional procedures. • Illustrate the steps of commonly performed imaging-guided procedures like ultrasound guided and CT guided aspiration. • Learn the indications, contraindications and techniques of different nerve and ganglion blocks for e.g. Celiac 	<p>counseling and breaking bad news</p> <ul style="list-style-type: none"> • Role modeling demonstrating professionalism and ethics 	
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						<p>axis block, popliteal block and ankle block.</p> <ul style="list-style-type: none"> • Demonstrate counseling, breaking bad news and consent patients for various radiological interventions • Exhibit thorough professionalism through better communication towards patients, colleagues, juniors and nursing staff. 		
9.	<p>Elective General Surgery in a Private Health Care Environment (IBP MTI)</p>	04 weeks	10 students	<p>IBP Clinics/Private tertiary care hospitals</p>	<ul style="list-style-type: none"> • In our setup, the workload of patients on a government tertiary care hospital is so exuberant, that the hospital cannot cater to the needs of society in its official allotted time. • The Institution Based Practice (IBP) started in our hospital enables the 	<ul style="list-style-type: none"> • Learn the basic principles of private practice. • Learn the basic principles and working of the IBP setup • Learn the core knowledge of the diseases by observing the senior consultants • Suggest and discuss the investigations done in IBP for the diagnosis 	<ul style="list-style-type: none"> • SGDs • DSL • SDL • CBL • PBL • OMP • Roleplay for counseling and breaking bad news • Role modeling demonstrating professionalism and ethics 	<ul style="list-style-type: none"> • Formative assessment by a certificate of good standing by the Supervisor • Submission of reflection following the Gibbs Reflective cycle daily. • 80% attendance is a must for successful completion of the module

					<p>hospital to share the burden of patient load</p> <ul style="list-style-type: none"> • Learning how to practice medicine in private timings or in a private setup is an important challenge that every practicing physician must carry out in professional and ethical manner • In the current core curriculum, there is no opportunity for the students to witness the ethics and responsibility that a surgeon has on his shoulder while doing private practice. • The Institution Based Practice started in our hospital provides the students an opportunity to observe senior consultants practice surgery 	<p>and perioperative workup of the patients</p> <ul style="list-style-type: none"> • Learn the perioperative workup and management of the surgical patients • Observe and assist the surgeons in the surgical procedures done in the evening time in IBP. • Demonstrate counseling, breaking bad news and consenting patients for various procedures. • Develop and execute necessary communication skills professionally. 		
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					<p>one-on-one.</p> <ul style="list-style-type: none"> • The students have the opportunity to follow in the footsteps of their seniors and help expand healthcare access to local areas that might currently be underserved. 			
10.	Hand and Reconstructive Surgery	04 weeks	04 students 01 per consultant in the hospital and IBP	Department of Orthopedics in a tertiary care hospital	<ul style="list-style-type: none"> • Hands have a very delicate and complex structure that gives muscles and joints in the hand a great range of movement and precision. • In our setup there is minimal understanding of the different pathologies of hand whereas it has emerged as a new field worldwide • This module in the SSC for final year students may prove very helpful in 	<ul style="list-style-type: none"> • Discuss the Embryology and Anatomy of hand structures like bones, joints, tendons, nerves and muscles • Write Daily Progress Report (DPR) according to Subjective-Objective-Assessment-Plan (SOAP) note • Acquire PowerPoint presentation skills • Discuss and perform different dressings and casts applied in hand like simple 	<ul style="list-style-type: none"> • Lectures • Bed side teaching • SGDs • SDL • DSL • Case based learning • Simulations • Videos on various procedures and operations • Roleplay • Videos on counseling and consent • Role modeling demonstrating medical professionalism 	<ul style="list-style-type: none"> • Formative assessment by a certificate of good standing by the Supervisor • Submission of reflection following the Gibbs Reflective cycle daily. • 80% attendance is a must for successful completion of the module

					<p>becoming abreast with common hand pathologies like deformities, rheumatic diseases, infections, hand trauma and reconstruction of tendons, skin grafts and flaps</p> <ul style="list-style-type: none"> • Our department of orthopedics is privileged with a faculty dedicated to hand in addition to other Orthopedic procedures and • This provides an ideal opportunity for undergraduate students to have an insight into hand-related problems which might help them excel and find their future in this super specialty after graduation. 	<p>dressing, crepe bandage and spica cast etc.</p> <ul style="list-style-type: none"> • Suggest and discuss specific investigations for hand-related problems including ultrasound, X-Rays, MRI and Nerve conduction Studies • Discuss the various incisions given to hand in the surgical treatment of different hand-related problems • Discuss the various techniques for hand reconstruction like flaps, grafts, tendon repairs, and nerve repair. • Discuss the basic principles of arthroplasty of the hand for severe arthritis and other conditions • Discuss the risks associated with 		
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						<p>hand surgery like Infection, incomplete healing, sensory and motor loss</p> <ul style="list-style-type: none">• Discuss the indications, pre- requisites and post-operative care in cases of amputation and re-implantation		
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MEDICINE AND ALLIED

S. No	SSC Module	Duration	Number of students	Venue	Rationale/ Need assessment	General Learning Objectives	Teaching methodology	Assessment/certification
	<p>Medical emergencies (A&E department)</p>	04weeks	04 Students 01 per unit	Department of Surgery in a tertiary care hospital	<ul style="list-style-type: none"> • There is a tremendous workload of acute medical emergencies in our setup which provides ample learning opportunities to students over a wide range of medical emergencies. • Unfortunately, in the current core curriculum, the final year students do not have a clinical rotation to A&E department to see this wide range of medical emergencies. • This module in the SSC might prove very fruitful regarding enhancement of knowledge, skills and attitudes of final year students in the 	<ul style="list-style-type: none"> • Discuss the pathophysiology of SIRS, sepsis, various types of shocks, and MODS. • Observe and assist on IV cannulation, Foley's catheterization, nasogastric intubation, back slab and POP cast, positioning the patient on spine board for transfer. • Observe and assist emergency endotracheal intubation, CVP line insertion, chest intubation in simulated settings. • Demonstrate empathy to trauma patients. • Consent patients for surgical procedures. • Develop and 	<ul style="list-style-type: none"> • SGDs • SDL • DSL • 	<ul style="list-style-type: none"> • Formative assessment by a certificate of good standing by the Supervisor • Submission of reflection following the Gibbs Reflective cycle daily. • 80% attendance is a must for successful completion of the module

					<p>management of these conditions.</p> <ul style="list-style-type: none"> • It may also encourage and motivate these students to pursue their careers as Emergency medicine specialists in the future. Also, Emergency Medicine has emerged as an independent subspecialty around the world that they can further explore and choose as a future career. 	<p>execute necessary communication skills in a professional manner</p>		
1	Medical critical care (rotation to medical ICU)	04 weeks	01 Student	Medical ICU of a tertiary care hospital	<ul style="list-style-type: none"> • Critical care medicine is a fundamental part of under and post graduate training, however, it has been neglected in our settings at both levels. • High effective coverage of critical care leads to good outcomes and 	<ul style="list-style-type: none"> • Describe the basic principles of critical care medicine • Write Daily Progress Report (DPR) according to Subjective-Objective-Plan (SOAP) note • Describe the criteria for admission and discharge from medical ICU 	<ul style="list-style-type: none"> • Lectures on basic ICU care • SGDs • SDL • DSL • Bed side Teaching • Videos on ventilator support, CVP line insertion and ABGs sampling. • Simulation for invasive procedures 	<ul style="list-style-type: none"> • Formative assessment by a certificate of good standing by the Supervisor • Submission of reflection following the Gibbs Reflective cycle daily. • 80% attendance is a must for successful completion of the module

					<p>survival for critically ill patients</p> <ul style="list-style-type: none"> • Unfortunately there are very few specialized people in the field, thus a high demand for such people • An insight into the various aspects of critical care medicine including invasive monitoring, ventilator support, and interpretation of ABGs is of paramount importance for an undergraduate who may pursue career as an Intensivist. 	<ul style="list-style-type: none"> • Discuss the indications of ventilator and its different modes of ventilation • Interpret ABGs, put patient on ventilator and wean off and calculate TPN. • Observe and assist CVP line insertion and Arterial sampling for ABGs • Professionally practice necessary communication skills in the ICU setting. • Develop communication skills for breaking bad news and counseling regarding ventilator support and its discontinuation in patients who are brain dead. 	<ul style="list-style-type: none"> • Roleplay and videos for breaking bad news and counseling • Role modeling demonstrating medical professionalism. 	
2	Cardiology / CCU	04 weeks	02 Students	Cardiology unit of a tertiary care hospital	<ul style="list-style-type: none"> • The field of interventional cardiology is a dynamic, continuously evolving field, 	<ul style="list-style-type: none"> • Discuss the basic principles of cardiology • Write Daily Progress Report (DPR) according 	<ul style="list-style-type: none"> • Lectures • Bedside teaching • SGDs • OMP • CBL 	<ul style="list-style-type: none"> • Formative assessment by a certificate of good standing by the Supervisor • Submission of

					<p>enabled by constant technological advances</p> <ul style="list-style-type: none"> • The students do not attend cardiology as part of their core clerkship • The component may enable the students to adopt the field as a future career 	<p>to Subjective-Objective-Assessment-Plan (SOAP) note</p> <ul style="list-style-type: none"> • Acquire PowerPoint presentation skills • Discuss technical procedures and medications to treat abnormalities that impair the function of the cardiovascular system • Observe and assist in imaging and other diagnostic techniques to evaluate blood flow and pressure in the coronary arteries and chambers of the heart like echocardiography and angiography • Develop and execute necessary communication skills professionally. 	<ul style="list-style-type: none"> • SDL • DSL • Simulation in clinical skills lab • Videos demonstrating various interventions, counseling, consent and communication skills. • Roleplay for breaking bad news, counseling and consent. 	<p>reflection following the Gibbs Reflective cycle daily.</p> <ul style="list-style-type: none"> • 80% attendance is a must for successful completion of the module
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3	Pulmonology	04 weeks	05 students	Medical wards and medical ICU of a tertiary care hospital	<ul style="list-style-type: none"> • Since the start of Covid era, the importance of pulmonology has enhanced manifold • Important procedures like pleural tap, chest intubation are performed in pulmonology for both diagnostic and therapeutic purpose and flexible fiber-optic instruments are extending the reach into the body • Our students do not have the opportunity to learn pulmonology-related conditions as part of their core curriculum • Enable students to perform basic invasive diagnostic and therapeutic interventions in their post-graduate 	<ul style="list-style-type: none"> • Describe the general principles of pulmonology • Write Daily Progress Report (DPR) according to Subjective-Objective-Assessment-Plan (SOAP) note • Acquire PowerPoint presentation skills • Observe and assist in invasive procedures like thoracentesis, intravenous and intra muscular injections • Perform the basic invasive procedures like catheterization, nasogastric intubation and • Demonstrate empathy • Exhibit thorough professionalism through better communication towards patients, colleagues, juniors, and 	<ul style="list-style-type: none"> • Lectures • SGDs • SDL • DSL • Bed side teaching • Videos on various invasive medical interventions procedures • Simulation for various diagnostic and therapeutic medical intervention procedures on models and mannequins. • Roleplay for demonstrating counseling and consent. • Video clips demonstrating counseling and consent. • Role modeling to demonstrate medical professionalism 	<ul style="list-style-type: none"> • Formative assessment by a certificate of good standing by the Supervisor • Submission of reflection following the Gibbs Reflective cycle daily. • 80% attendance is a must for successful completion of the module
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					<p>training.</p> <ul style="list-style-type: none"> The component may enable the students to adopt the field as a future career 	nursing staff.		
4	Endocrinology	04 weeks	Individual	Endocrinology OPD tertiary care hospital	<ul style="list-style-type: none"> Diabetes mellitus represents an immense disease burden on health care setup in our society Due to the high incidence of diabetes mellitus in our population, there is a great incidence of complications in the body, most notable of which are the foot and eyes After graduation, doctors from every specialty have to deal with a great number diabetic patients Internationally diabetic foot care clinic serves to provide care to diabetic foot patient Our graduates 	<ul style="list-style-type: none"> Discuss the pathophysiology of diabetes mellitus and other endocrine diseases Write Daily Progress Report (DPR) according to Subjective-Objective-Assessment-Plan (SOAP) note Acquire PowerPoint presentation skills Observe and assist in the workup of diabetes mellitus and other endocrine diseases. Discuss the general care of patients with diabetic foot and their foot care in specific. Demonstrate 	<ul style="list-style-type: none"> Lectures SGDs SDL DSL CBL Bed side teaching Roleplay for demonstrating counseling and consent. Video clips demonstrating counseling and consent. Role modeling to demonstrate medical professionalism 	<ul style="list-style-type: none"> Formative assessment by a certificate of good standing by the Supervisor Submission of reflection following the Gibbs Reflective cycle daily. 80% attendance is a must for successful completion of the module

					<p>must know the prevention and management of patients with diabetic foot and enable them in playing their part in reducing the morbidity associated with poor glycemic control in the form of sepsis and amputation and eye problems like blurred vision etc.</p>	<p>empathy to patients.</p>		
5	<p>Gastroenterology</p>	04 weeks	02 students	<p>Gastroenterology unit of a tertiary care hospital</p>	<ul style="list-style-type: none"> • Gastroenterology ever since its advent as a separate specialty has shared a great burden of patients that were normally treated in medical inpatient and outpatient departments • Continuous advancements in endoscopic techniques has evolved interventional 	<ul style="list-style-type: none"> • Describe the basic principles of gastroenterology • Write Daily Progress Report (DPR) according to Subjective-Objective-Assessment-Plan (SOAP) note • Acquire PowerPoint presentation skills • Discuss the anatomy of the upper and lower gastrointestinal 	<ul style="list-style-type: none"> • Lectures • SGDs • SDL • DSL • CBL • Bed side teaching • Simulate endoscopy on mannequins in skills lab • Roleplay for demonstrating counseling and consent. • Video clips demonstrating counseling and consent. 	<ul style="list-style-type: none"> • Formative assessment by a certificate of good standing by the Supervisor • Submission of reflection following the Gibbs Reflective cycle daily. • 80% attendance is a must for successful completion of the module

					<p>gastroenterology into a well-recognized specialty both worldwide and nationally.</p> <ul style="list-style-type: none"> • Our hospital has an endoscopy suite where basic endoscopy is done regularly by trained gastroenterologists. • Our students get seldom the chance to witness this as a fully equipped setup for interventional procedures in the field of gastroenterology is lacking. • Rotating through such a setup as part of this component will enlighten our students with the modern interventions as much as they could pursue a career in their future 	<p>tract</p> <ul style="list-style-type: none"> • Understand clinically relevant GI physiology and pathophysiology associated with disease processes • Gain proficiency in performing a detailed history and physical examination • Observe and assist in diagnostic workup and management of common gastrointestinal problems • Observe and assist in the basic upper and lower GI endoscopy • Observe and assist the gastroenterologist in advanced procedures like endoscopic ultrasound, stenting and percutaneous endoscopic procedures • Demonstrate 	<ul style="list-style-type: none"> • Role modeling to demonstrate medical professionalism in interpersonal communication with fellow doctors and other staff 	
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						empathy to patients.		
6	Neurology	04 weeks	02 students	Neurology unit of a tertiary care hospital	<ul style="list-style-type: none"> • Unlike the number of clinicians trained to treat patients with headache disorder, the number of patients with headache disorder are much more. • Early education and exposure to headache medicine is crucial to address this disparity. • Neurological symptoms (e.g., dizziness) are very common and representing some of the potentially life-threatening neurological emergencies (e.g., stroke), all physicians should be familiar with the basics of neurology and know how to recognize 	<ul style="list-style-type: none"> • Discuss the basic principles of clinical neurology • Write Daily Progress Report (DPR) according to Subjective-Objective-Assessment-Plan (SOAP) note • Acquire PowerPoint presentation skills • Discuss and perform the full neurological clinical history and examination • Observe and assist in investigations like CT head without contrast MRI brain and lumbar puncture, Electroencephalogram (EEG) and electromyography (EMG), Nerve conduction studies (NCS) • Observe and assist in procedures like lumbar puncture 	<ul style="list-style-type: none"> • Lectures • SGDs • OMP • DSL • CBL • SDL • Bed side teaching • Roleplay for demonstrating counseling and consent. • Video clips demonstrating counseling and consent. • Role modeling to demonstrate medical professionalism in interpersonal communication with fellow doctors and other staff 	<ul style="list-style-type: none"> • Formative assessment by a certificate of good standing by the Supervisor • Submission of reflection following the Gibbs Reflective cycle daily. • 80% attendance is a must for successful completion of the module

					<p>manifestations of neurological disease</p> <ul style="list-style-type: none"> • Our hospital is gifted to have a well-trained neurologist • Our students do not rotate in Neurology as part of their core curriculum • Students can have an insight of basic clinical neurology and they have the opportunity to join it as their career in future 	<ul style="list-style-type: none"> • Demonstrate empathy to patients. • Demonstrate counseling, breaking bad news and consent patients for various procedures. 		
	Nephrology	04 weeks	02 students	Dialysis unit of a tertiary care hospital	<ul style="list-style-type: none"> • A great number of patients require renal support for kidney failure due to diabetic nephropathy, uropathy due to obstruction and sepsis or hypovolemia in our society • Our hospital is equipped with a state of the art of dialysis unit • Students of our 	<ul style="list-style-type: none"> • Discuss the causes of acute and chronic renal failure • Discuss the basic principles of hemodialysis • Understand the difference between and risks of hemodialysis, hemodiafiltration and peritoneal dialysis and their indications • Recognize urgent 	<ul style="list-style-type: none"> • Lectures • SGDs • OMP • DSL • CBL • SDL • Bed side teaching • Roleplay for demonstrating counseling and consent. • Video clips depicting how to pass Double lumens and permanent 	<ul style="list-style-type: none"> • Formative assessment by a certificate of good standing by the Supervisor • Submission of reflection following the Gibbs Reflective cycle daily. • 80% attendance is a must for successful completion of the module

COMMUNITY BASED HOSPITAL ROTATIONS

S. No	SSC Module	Duration	Number of students	Venue	Rationale/ Need assessment	General Learning Objectives	Teaching methodology	Assessment/certification
1	Community-Based Hospital Rotations	04 weeks	10 students	BHUs/RHCs/ Tehsil HQ hospitals	<ul style="list-style-type: none"> • Primary health care is the cornerstone of a health care setup • Community hospitals are the main venues where primary care hospitals • Unfortunately, most of the patients with primary care problems make their way to tertiary care hospitals, thus adding to the unnecessary burden on the hospital • This is due to a lack of awareness among the masses and lack of trained people at the community-based hospitals • If graduates are exposed to the community- 	<ul style="list-style-type: none"> • To understand how the community-based hospitals work • Discuss the communicable and non-communicable diseases • Discuss the notifiable diseases • Discuss the strategies to prevent the transmission of communicable disease • Discuss the different vaccines used for the prevention of different diseases in children • Learn the use of anti-tetanus vaccine in pregnant women • Discuss the management of snake bite, dog 	<ul style="list-style-type: none"> • Lectures • SGDs • DSL • SDL • CBL • OMP • Video lectures giving description of the common diseases and their treatment regimens • Role modeling showing thorough medical professionalism in all three domains of learning. 	<ul style="list-style-type: none"> • Formative assessment by a certificate of good standing by the Supervisor • Submission of reflection following the Gibbs Reflective cycle daily. • 80% attendance is a must for successful completion of the module

					<p>based hospital all of a sudden, they are not oriented enough to adequately impart healthcare to the masses to prevent the load from overburdening the tertiary care hospitals</p>	<p>bite, atropine and organophosphate poisoning and tropical diseases</p> <ul style="list-style-type: none"> • Serve as teachers and mentors to the community health workers (CHWs) as they work together in the clinic and in the community • Read about global health strategies and discuss with local staff • Demonstrate empathy • Counsel regarding the prevention of diseases and their associated morbidity • Exhibit professionalism In interpersonal coordination with the doctors and CHWs 		
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MEDICAL/CLINICAL RESEARCH

S. No	SSC Module	Duration	Number of students	Venue	Rationale/ Need assessment	General Learning Objectives	Teaching methodology	Assessment/certification
1.	Participation in health research activities	04 weeks	8-10 students	Research Cell/ Department of Medical Education KMC	<ul style="list-style-type: none"> • A medical doctor can be a clinician and a medical journalist at the same time and this additional quality of being an investigator, a critical analyzer, and a reporter is crucial in terms of dissemination of knowledge and research to improve patient care • The SSC in medical journalism involves acquainting the undergraduates with the key concepts related to designing, analyzing, reporting, and publishing of health problems-related content. • It also helps undergraduates improve their communication 	<ul style="list-style-type: none"> • Describe the principles of academic writing and research methodology • Describe the theory of medical journalism keeping in mind the global standards • Describe the steps of a journal's editorial workflow. • Critically appraise a scientific research paper for publication. • Report authentic health-related news for the general public, highlighting health policy and health awareness • Prepare an original article for submission in an indexed 	<ul style="list-style-type: none"> • Lectures • SGDs • SDL • DSL • CBL • PBL • Workshops • TBL • Development of IT skills in a computer lab 	<ul style="list-style-type: none"> • Formative assessment by a certificate of good standing by the Supervisor • Submission of reflection following the Gibbs Reflective cycle daily. • 80% attendance is a must for successful completion of the module

					<p>skills, research writing skills and medical professionalism</p> <ul style="list-style-type: none"> • Additionally, the students may find it helpful to determine their future career choice by engaging deeply in this field of the medical profession. • Scientific writing and its publication is a very vast field and a lack of knowledge about research writing and the editorial process leads to low-quality publications • The undergraduate medical students have a poor awareness and skills about basic principles of medical research writing • This SSC module might prove very helpful in this regard 	<p>medical journal.</p> <ul style="list-style-type: none"> • Apply ethical, both research and publication, and professionalism skills in journalism • Perform statistical analysis on SPSS Software • Demonstrate the ability to use referencing software (Mendeley/ Endnote) • Discuss plagiarism and its prevention and demonstrate the ability to perform plagiarism checks in Turnitin software • Demonstrate the various steps of the review process of research articles • Learn Record keeping through both Health Management Information System (HMIS) 		
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						and in hard.		
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ATTACHMENTS IN PHARMACY/BASIC NURSING SKILLS/ WOUND CARE AND DRESSINGS/SOCIAL WELFARE INCLUDING MEDICAL CAMPS AND BLOOD DONATIONS

S. No	SSC Module	Duration	Number of students	Venue	Rationale/ Need assessment	General Learning Objectives	Teaching methodology	Assessment/certification
1	Attachments in Pharmacy	04 Weeks	12-15 Students	<ul style="list-style-type: none"> Any Registered Pharmacy 	<ul style="list-style-type: none"> Various surveys indicate that our final year students have little knowledge of different drugs used in daily practice in wards and OPDs, their indications/contraindications, their adverse effects and their generic names This is important while they perform their duties in imparting treatment to the 	<ul style="list-style-type: none"> Learn the generic names of different drugs, dosages, their routes of administration, indications/contraindications, adverse effects and their reactions in different clinical scenarios both in wards and OPDs 	<ul style="list-style-type: none"> TBL Team based learning SDL Role modeling Workshops free medical camps 	<ul style="list-style-type: none"> Formative assessment by a certificate of good standing by the Incharge Pharmacy Submission of reflection following the Gibbs Reflective cycle daily. 80% attendance is a must for successful completion of the module

					patients in ward and OPDs			
2	Basic Nursing Skills	04 Weeks	10-12 students	<ul style="list-style-type: none"> Any tertiary or secondary care hospital 	<ul style="list-style-type: none"> Basic nursing skills including passing IV lines, and infusion IV medications constitute one of the pillars of healthcare Students after their graduation must be well trained in these basic nursing skills to impart adequate care throughout their career However, our graduates face enormous difficulty once they join their house job and thereafter while performing their duties in ward in basic nursing skills Moreover, basic wound care which makes the foundation for advanced patient care is deficient 	<ul style="list-style-type: none"> Observe and assist in the different aspects of basic nursing care like bedding, dietary counseling, side changing, NG feeding etc. Observe and assist in basic nursing skills including passing IV lines, infusing IV medications Learn the different types of dressings and their advantages and disadvantages Perform basic wound care like wound wash, simple and surgical dressings, application and removal of stitches, stoma care, bowel preparation and application of various methods of crepe bandage 	<ul style="list-style-type: none"> TBL Team-based learning SDL Role modeling 	<ul style="list-style-type: none"> Formative assessment by a certificate of good standing by the Nursing Director Submission of reflection following the Gibbs Reflective cycle daily. 80% attendance is a must for successful completion of the module

					however in our graduates			
3	Members of social welfare society KMC	04 Weeks	10-12 Students	<ul style="list-style-type: none"> • Social Welfare Society KMC 	<ul style="list-style-type: none"> • Due to the poor socio-economic status of most of the patients, they are deprived of quality care, whereas social work in the form of arrangement of free medical camps is a means to fill this gap in far-flung areas 	<ul style="list-style-type: none"> • Arranging blood camps, Blood screening Provide blood to needy and deserving patients • Awareness campaigns about blood donation and safe blood transfusion • Actively participate in and supervise arrangements of free medical camps, their logistics and venue selection • Awareness among the general population • Impart practical education among the general population • Observe international health days • Provide updated knowledge to medical students • Basic life support 	<ul style="list-style-type: none"> • Lectures • TBL • Team-based learning • Role modeling 	<ul style="list-style-type: none"> • Those students who are members of the social welfare society will be deemed to have completed this SSC Module • Formative assessment by a certificate of good standing by the Chairperson Social Welfare Society • Submission of reflection following the Gibbs Reflective cycle daily.

						workshops		
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Organogram of the SSCs

The following faculty members will run this program as follows:

- 1) Program Organizer: The program organizer will be from the department of medical education and will direct the SSC activities.
- 2) Program Director: A faculty member will be directing the whole program in terms of development, implementation, and evaluation in consultation with the DME
- 3) Program Coordinator: will coordinate with various faculties and students for the smooth running of the SSC.
- 4) Individual Supervisor: will be a faculty member from the specified specialty or component.

Program Evaluation

The program director will constitute a committee comprising of members from the medical education department/research cell KMC/clinical and basic science faculty/student representative, and representatives from the administration and IT department. Input from students, faculty, and all involved staff members through feedback proforma will be considered and the outcomes achieved through this program for future changes and improvement.

Feedback Proforma

To assess the performance of students in different activities, a feedback proforma will be developed and will be filled by the supervisors of the unit at the end of SSC for each student. A detailed feedback proforma will be filled in confidentially by each student to identify the loopholes in various components of module for future audits, research and hence improvement in SSC modules.