

Course Title	<b>Emergency Medicine and Intensive Care</b>						
Course Code	<b>MED-603</b>						
Course Type	Required						
Level	Undergraduate						
Year / Semester	Year 6/ Semester 11 (Fall)						
Teacher's Name	<b>Course Lead:</b> Dr Theodoros Kyprianou						
ECTS	10	Lectures / week	4	Laboratories / week	0	Clinical Practice	36
Course Purpose and Objectives	<p>The main objectives of the last two years of the six year medical programme are to provide students with extensive experience in the clinical environment, mainly in hospitals but also in the community, so that they can utilise their learning over the previous four years to practise their clinical, communication, diagnostic and reasoning skills on real patients, and to learn about the emergency management of patients, from a medical, therapeutic, surgical, psychosocial and caring perspective.</p> <p>In this course, students will spend six weeks working primarily with patients with conditions requiring urgent medical or surgical attention and with patients undergoing intensive care. They will develop an understanding of the presentation, signs and symptoms, physical examination findings, investigations, diagnosis, treatment (medical and/or surgical as appropriate) and management plan for emergency and/or critically ill patients. Critical care medicine is concerned with the diagnosis, management, and prevention of complications in patients who are severely ill and who usually require intensive monitoring and/or organ system support.</p> <p>The students will learn how to take detailed histories from, carry out systematic clinical examination of, and interpret laboratory and imaging data on patients with disorders of the cardiovascular system. They will also spend time in theatre observing emergency surgery. They will learn about anaesthetics and the roles played by anaesthetists during surgical operations.</p> <p>They will learn to recognise the sick patient and to undertake the early management of medical emergencies. They will learn about the principles of preoperative evaluation, intraoperative care and postoperative management of surgical patients.</p> <p>In a simulated ward situation, they will practise leading the stabilisation and resuscitation of a patient. They will learn basic procedural skills such as wound care, suturing, and splinting, as well as advanced skills such as fracture management, insertion of central venous lines, acute airway management, and resuscitation.</p>						
Learning Outcomes	<p>After the completion of the course the students should be able to:</p> <ol style="list-style-type: none"> <li>1. Assess the urgency of care required for an emergency patient (triage)</li> </ol>						

	<ol style="list-style-type: none"> <li>2. Take a history from a patient, or relative of a patient, who presents as an emergency, in a sensitive and caring manner</li> <li>3. Carry out a physical examination of patients so presenting</li> <li>4. Come up with a differential diagnosis for the emergency</li> <li>5. Identify appropriate investigations, including blood, sputum and urine tests and imaging, to assist in the diagnosis of the presenting complaint and to interpret the results from such tests</li> <li>6. Prepare a treatment management plan for the patient to present to the responsible clinician to include medical, pharmacological, surgical options as appropriate</li> <li>7. Observe, and where appropriate carry out or assist with, the following procedures: measurement of arterial blood gases, interpretation of liver function tests and coagulation studies, measurement of ECG, cardiac stress test, angiogram, echocardiogram, IV cannulation insertion, maintenance of a Guedel airway ventilation with bag and mask, endotracheal intubation, CT, MRI and PET scans, X-rays, ultrasound, Doppler scans, emergency surgical procedures e.g. appendectomy, planned and opportunistic</li> <li>8. Identify the patient who requires immediate medical attention and intervention.</li> <li>9. Describe the initial emergency management of shock, seizures, severe respiratory distress, head trauma, and cervical spine trauma in children and describe findings suggestive of non-accidental trauma.</li> <li>10. Describe the treatment for wounds and burns, the stabilization of orthopaedic trauma, the recognition and initial management of shock and coma, head and cervical spine trauma in adults</li> <li>11. Outline the specific initial management issues for abrasions, bites, burns, contusions, fractures, lacerations, near drowning, and sprains, including tetanus prevention</li> <li>12. Outline the diagnosis and management of acute organ failure, with particular emphasis on the cardiorespiratory system.</li> <li>13. Describe sedation and analgesia in the critical care unit and outline parenteral and enteral nutrition in the critically ill patient.</li> </ol>		
Prerequisites	None	Required	None
Course Content	<ul style="list-style-type: none"> <li>• Recognising the sick patient on the ward or in A&amp;E</li> <li>• The indications for the use of emergency drugs and routes of administration</li> <li>• The significance of abnormal pulses, cardiac rhythms; cardiac arrest rhythms and</li> <li>• Principles of Critical Care Medicine</li> <li>• SIRS, Sepsis and Septic Shock</li> <li>• Cardiogenic Shock and pulmonary oedema</li> <li>• Cardiac arrest and sudden cardiac death</li> </ul>		

	<ul style="list-style-type: none"> <li>• Acute Respiratory Distress Syndrome</li> <li>• Mechanical Ventilatory Support</li> <li>• Respiratory Monitoring in Critical Care</li> <li>• Oxygen therapy</li> <li>• Organ Failures</li> <li>• Choking</li> <li>• Acute asthma attack</li> <li>• Anaphylactic shock</li> <li>• Hyperventilation</li> <li>• Faints/syncope</li> <li>• Respiratory arrest</li> <li>• Angina and Myocardial infarction</li> <li>• Seizures</li> <li>• Drugs used in resuscitation</li> <li>• Coma</li> <li>• Hypoxic-ischaemic encephalopathy</li> <li>• Ischaemic and haemorrhagic cerebrovascular diseases</li> <li>• Oncologic emergencies</li> <li>• Renal Failure and Fluid and Electrolyte Disorders</li> <li>• iv fluids and blood – composition and use</li> <li>• Glycaemic Control in the critically ill patient</li> <li>• Pre-operative assessment, investigation and premedication</li> <li>• Indications for intubation</li> <li>• Local and general anaesthetics</li> <li>• Maintenance of Anaesthesia and Monitoring</li> <li>• Acute Pain Management</li> </ul>										
Teaching Methodology	The course is delivered by clinical placements, lectures, tutorials, case studies and group discussions.										
Bibliography	<p><b>Required Textbooks/Reading:</b></p> <table border="1" data-bbox="419 1697 1436 1935"> <thead> <tr> <th>Authors</th> <th>Title</th> <th>Publisher</th> <th>Year</th> <th>ISBN</th> </tr> </thead> <tbody> <tr> <td>Mahadevan, Swaminatha V</td> <td>An introduction to clinical emergency medicine</td> <td>Cambridge University Press</td> <td>2012</td> <td>9780521747769</td> </tr> </tbody> </table> <p><b>Recommended Textbooks/Reading:</b></p>	Authors	Title	Publisher	Year	ISBN	Mahadevan, Swaminatha V	An introduction to clinical emergency medicine	Cambridge University Press	2012	9780521747769
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Mahadevan, Swaminatha V	An introduction to clinical emergency medicine	Cambridge University Press	2012	9780521747769							

	<b>Authors</b>	<b>Title</b>	<b>Publisher</b>	<b>Year</b>	<b>ISBN</b>
	Knoop, Kevin J	Atlas of emergency medicine	McGraw Hill	2013	9780071496186
Assessment	Final year exam and final year OSCE.				
Language	English				