<table>
<tr><td>Course title</td><td colspan="4">Clinical Practice: Emergency Medicine and Intensive Care</td></tr>
<tr><td>Course code</td><td colspan="4">GEMD-501</td></tr>
<tr><td>Course type</td><td colspan="4">Required</td></tr>
<tr><td>Level</td><td colspan="4">Undergraduate</td></tr>
<tr><td>Year / Semester</td><td colspan="4">Year 5 / Semester 9/10 (rotation)</td></tr>
<tr><td>Teacher’s name</td><td colspan="4">Course Lead: TBA</td></tr>
<tr><td rowspan="3">ECTS</td><td rowspan="3">48</td><td colspan="3">Teaching Periods per Week</td></tr>
<tr><td>Large Group Learning</td><td>Small Group Learning</td><td>Clinical Practice</td></tr>
<tr><td>6</td><td>2</td><td>30</td></tr>
<tr><td>Course purpose and objectives</td><td colspan="4">The main objectives of the last two years of the five 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 three 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.

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.

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.

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.

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</td></tr>
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	management, insertion of central venous lines, acute airway management, and resuscitation.
Learning outcomes	By the end of the course the students should be able to: 1. Assess the urgency of care required for an emergency patient (triage). 2. Take a focused history from a patient, or relative of a patient, who presents as an emergency, in a sensitive and caring manner. 3. Carry out an appropriate physical examination of patients so presenting. 4. Discuss a differential diagnosis for the emergency. 5. Apply their knowledge of basic and clinical science to identify and explain 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. 6. Prepare and explain a treatment management plan for the patient to present to the responsible clinician to include medical, pharmacological, surgical options as appropriate. 7. Demonstrate effective history taking with relation to prescribed drugs, over the counter medication, complementary and alternative therapies, illicit drug use and allergies. 8. Prescribe drugs safely a. Demonstrate how to write a prescription for a patient, including effective prescription of controlled drugs. b. Demonstrate the correct use of an in-patient prescription chart. c. Inject drugs, at the correct dose, intramuscularly, subcutaneously and intravenously. d. Correctly prescribe oxygen, "As Required" medication, fluids and blood products, under supervision. e. Administer nebulized drugs. 9. Calculate the strength of an infusion based on the required rate of drug administration. 10. Mix and inject drugs into an intravenous infusion bag and prepare and give drugs by infusion pump. 11. Describe the emergency assessment and resuscitation of a patient following a drug overdose. 12. Describe the symptoms and signs following overdose with aspirin, paracetamol, opiates, tricyclic antidepressants, benzodiazepine. 13. Describe the specific management including antidotes of each drug listed. 14. 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. 15. Identify the patient who requires immediate medical attention and intervention. 16. 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. 17. 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. 18. Outline the specific initial management issues for abrasions, bites, burns, contusions, fractures, lacerations, near drowning, and sprains, including tetanus prevention. 19. Outline the diagnosis and management of acute organ failure, with particular emphasis on the cardiorespiratory system. 20. Describe sedation and analgesia in the critical care unit and outline parenteral and enteral nutrition in the critically ill patient.		
Prerequisites	None	**Required**	None
Course content	• The diagnosis and management of common emergencies including cardiac arrest, shock, respiratory emergencies, seizures, renal failure, acute pain management • Recognising the sick patient on the ward or in A&E • The indications for the use of emergency drugs and routes of administration • Oxygen therapy • Choking and hyperventilation • The indications for intubation • Prescribing skills • Local and general anaesthetics • Adverse drug reactions and anaphylaxis • Overdose with aspirin, paracetamol, opiates, carbon monoxide, tricyclic antidepressants, benzodiazepine • The emergency assessment and resuscitation of a patient following overdose		

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The specific management including antidotes of drugs commonly taken as overdose
Desensitisation therapy in the management of allergy to insect stings (bee, wasp) and pollen (grass, trees)

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<tr><td>Teaching methodology</td><td>The course is delivered by clinical placements, lectures, tutorials, case studies and group discussions.</td></tr>
<tr><td>Bibliography</td><td>
Required textbooks/reading
<table>
<tr><th>Authors</th><th>Title</th><th>Edition</th><th>Publisher</th><th>Year</th><th>ISBN</th></tr>
<tr><td>Mahadevan, Swaminatha V</td><td>An introduction to clinical emergency medicine</td><td></td><td>Cambridge University Press</td><td>2012</td><td>9780521747769</td></tr>
<tr><td>Joint Formulary Committee</td><td>https://bestpractice.bmj.com/drugs</td><td>Last one</td><td>BMJ Group and Pharmaceutical Press.</td><td>Current year</td><td></td></tr>
<tr><td>National Institute for Health and Clinical Excellence</td><td>https://www.nice.org.uk/guidance</td><td>Last one</td><td></td><td>Current year</td><td></td></tr>
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Recommended textbooks/reading
<table>
<tr><th>Authors</th><th>Title</th><th>Edition</th><th>Publisher</th><th>Year</th><th>ISBN</th></tr>
<tr><td>Knoop, Kevin J</td><td>Atlas of emergency medicine</td><td></td><td>McGraw Hill</td><td>2013</td><td>9780071496186</td></tr>
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<tr><td>Assessment</td><td>Final year exam and final year OSCE. The written assessment will be Single Best Answer MCQs and Short Answer Questions. Workplace based assessments will take place during the attachment.</td></tr>
<tr><td>Language</td><td>English</td></tr>
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