Course Title: Forensic Medicine  
Course Code: M 590  
Credit Hours: 2.25  
Calendar Description: 2 Weeks/5th Year  
Co-ordinator: Ali Shotar  
Email: ashotar@just.edu.jo.

**Course description:**
Forensic terminology with emphasis on the understanding of the underlying pathology of traumatic and sudden, unexpected deaths encountered. The course deals with medico-legal investigation of death and injury due to natural causes, accidents, and violence. It covers analysis/investigation of transportation injuries, of homicides, suicides due to various causes, and sexual crimes and methods for identification and guidelines for quality control assurance.

**General objectives:**
By the end of this course, students are expected to understand:
1. A working knowledge of the principles of medical, scientific and technical evidence-gathering and the presentation of such evidence in the courts of law.
2. Appreciate both the scope and the limitations of medical and scientific investigation in assisting the courts.
3. Give a clear account of the procedures used in death investigation, the role of the Attorney General and the rules governing fatal accident inquiries.
4. Construct, from basic scientific and other factual information supplied concerning a scene of death, a logically argued re-construction of the events leading up to death, indicating what further investigations would be required for a full inquiry of this type.
5. Show a basic knowledge of the professional and ethical considerations governing everyday medical practice.
### Specific objectives:

<table>
<thead>
<tr>
<th>Unit</th>
<th>Topic</th>
<th>Specific objectives</th>
</tr>
</thead>
</table>
| Forensic Medicine           | 1) Sudden Natural Death (SND)  | 1. know a working approach, the incidence and distribution of SND and recent trends in its occurrence  
                                  |                                | 2. Be able to list the major causes of sudden natural death.  
                                  |                                | 3. Be able to analyse cases of trauma and disease. |
|                             | 2) Child Abuse & Family Violence | a. Physical Abuse  
                                  |                                | 1. be able to define child abuse  
                                  |                                | 2. have a basic knowledge of the historical recognition of child abuse  
                                  |                                | 3. be able to list the major clinical, radiological and pathological signs, of physical abuse  
                                  |                                | 4. be able to list the major natural conditions which may mimic child abuse  
                                  |                                | 5. be able to state the general strategy for dealing with child abuse  
                                  |                                | b. Sexual Abuse  
                                  |                                | 1. be able to define child sexual abuse  
                                  |                                | 2. be able to list the major clinical signs of child sexual abuse  
                                  |                                | 3. be able to describe the investigation of a case of suspected child sexual abuse, including the medical examination and laboratory tests |
|                             | 3) Alcohol - Ethanol           | 1. know briefly the sources, absorption, metabolism and elimination of ethanol.  
                                  |                                | 2. know the measurement of ethanol consumption in units.  
                                  |                                | 3. know the effects of ethanol.  
                                  |                                | 4. know the local and some foreign laws concerning drinking & driving.  
                                  |                                | 5. understand the interpretation of clinical findings in relation to alcohol levels  
                                  |                                | 6. understand the alcohol related causes of death. |
|                             | 4) Postmortem Changes          | 1. know the methods by which the postmortem interval can be estimated and their limitations.  
                                  |                                | 2. know the way in which the body cools after death, its rate of doing so and the factors which influence this  
                                  |                                | 3. know the nature and significance of hypostasis, cadaveric spasm, rigor mortis, putrefaction, mumification and adipocerous change and the rates at which these phenomena occur  
                                  |                                | 4. know the nature and significance of postmortem injury. |
|                             | 5) Wounds                      | 1. have a clear understanding of the way in which wounds are regarded in law and in medical practice  
                                  |                                | 2. know the definition, mechanism and diagnostic significance of bruises, abrasions, lacerations, incised wounds, stab wounds and fractures and the factors which may modify them  
                                  |                                | 4. know the distinction between bite marks and oral suction marks  
                                  |                                | 5. know the legal significance and medical methods of determining the degree of force used in inflicting an injury |
|                             | 6) Firearm Wounds              | 1. understand the basic principles on which modern firearms work and the major substances emitted by a gun when it fires  
                                  |                                | 2. know the basic principles of determination of the range of fire in rifled and smoothbore firearms  
                                  |                                | 3. know the basic distinguishing features of entry and exit firearm wounds.  
                                  |                                | 4. know the basic principles on which determination of accidental, suicidal and homicidal firearm wounding is made. |
7) Asphyxia

1. understand clearly the concept of asphyxia both to lawyers and to medical practitioners, together with its legal significance
2. know the general changes associated with asphyxia and the mechanisms by which they operate.
3. know the main categories of asphyxial and related deaths and the circumstances which bring them about.

8) Heroin and Cocaine

1. know the classification, sources, types, routes of abuse and mechanism of action.
2. know the clinical features of toxicity, lab diagnosis, general treatment, antidotes and the causes of death.

Weekly teaching activities including:

1. Seminars

   Eight seminars in the form of interactive and discussion type of selective topics will be allocated to each group of students.

2. Practical classes

   The groups are divided for practical classes in the clinics. The objective is to be familiar with the patterns of injuries assaults and writing medico-legal reports.

3. The students will attend the postmortem examinations conducted by the forensic doctors and understand, collection of samples for pathological examinations and samples from body fluids for toxicological analysis.

WEEK (1)

<table>
<thead>
<tr>
<th>SUNDAY</th>
<th>MONDAY</th>
<th>TUESDAY</th>
<th>WEDNESDAY</th>
<th>THURSDAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sudden natural death</td>
<td>Asphyxia</td>
<td>Postmortem changes</td>
<td>Wounds</td>
<td>Clinics</td>
</tr>
</tbody>
</table>

WEEK (2)

<table>
<thead>
<tr>
<th>SUNDAY</th>
<th>MONDAY</th>
<th>TUESDAY</th>
<th>WEDNESDAY</th>
<th>THURSDAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol</td>
<td>Child abuse</td>
<td>Gunfire wounds</td>
<td>Heroin and cocaine</td>
<td>Exam.</td>
</tr>
</tbody>
</table>

Assessment:

<table>
<thead>
<tr>
<th></th>
<th>EXAM FORMAT</th>
<th>WEIGHT(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>End of rotation exam</td>
<td>Short assays</td>
</tr>
<tr>
<td>2</td>
<td>Seminars</td>
<td>Group discussion</td>
</tr>
<tr>
<td>3</td>
<td>Evaluation</td>
<td>Attendance &amp; Interaction</td>
</tr>
<tr>
<td>4</td>
<td>FINAL EXAM</td>
<td>MCQs</td>
</tr>
</tbody>
</table>

Recommended text book:

Suggested readings:
Internet