655C CLINICAL CHEMISTRY

Students must obtain permission from the course coordinator who will obtain faculty approval based on availability prior to enrollment in this course.

Course Description: The student will be introduced to the technical and clinical interpretive aspects of laboratory methodologies, including immunoassays, chromatography (TLC, HPLC, GC), mass spectroscopy, atomic absorption, electrophoresis, microscopy, and enzymatics. Pertinent clinical topics include, among others, inborn errors of metabolism, toxicology (emergency and drugs of abuse), endocrinology, respiratory physiology, renal function, liver function, prenatal testing, and dyslipidemias. The student will be introduced to statistical concepts including the diagnostic performance of tests, determination of reference values, method evaluations, and validations.

Department: Pathology & Laboratory Medicine

Prerequisites: UC Irvine students must have successfully completed the basic science curriculum. Extramural students must be in the final year of undergraduate medical education and have completed course work equivalent to UC Irvine's Clinical Pathology and General Pathology courses.

Restrictions: Students must obtain permission from faculty prior to enrollment.

Elective Director: Robert A. Edwards, M.D., Ph.D., UC Irvine School of Medicine, Department of Pathology & Laboratory Medicine, Med Sci I, Room D435, Irvine CA 92697, 949-824-8576, redwards@uci.edu

Instructing Faculty: Dr. Dylan Bach, and staff

Course Website: None

Who to Report to First Day: Contact site coordinator for this information

Location to Report on First Day: Contact site coordinator for this information

Time to Report on First Day: Contact site coordinator for this information

Site Coordinator: Stefani Ching, UC Irvine School of Medicine, Department of Pathology & Laboratory Medicine, Med Sci I, Room D440, Irvine, CA 92697-4800, (949) 824-5367, stefani.ching@uci.edu

Site: UC Irvine Medical Center

Periods Available: Throughout the year but will depend on the availability of the instructors and laboratory staff

Duration: 2 weeks minimum

Number of Students: 2

Scheduling Coordinator: UC Irvine students please email comsched@uci.edu or call (714) 456-8462 to make a scheduling appointment. Please read the following information carefully. Any student enrolled at a U.S. LCME or COCA medical school will use VSAS to apply. To apply please refer to this website http://www.aamc.org/programs/vsas/ International students will not use VSAS. To apply please refer to the application link towards the top-left of this page. All Extramural students please contact Stefani Ching, UC Irvine School of Medicine, Department of Pathology & Laboratory Medicine, Med Sci I, Room D440, Irvine, CA 92697-4800, (949) 824-5367, stefani.ching@uci.edu

Course Objectives: At the end of this rotation the student will be able to:

- develop and understanding of the principles required to select laboratory tests and interpret results in various clinical settings
- interpret results for specific laboratory tests such as amino acid profiles, lipid profiles, serum protein electrophoresis, MS panels, and cardiac markers.

4/1/2016
• understand the role of the clinical pathologist in clinical consultations and in establishing the medical direction of the clinical laboratory.

Key Topics:

• Dylipidemias
• Inborn Errors
• Blood brain barrier and MS panel
• Monoclonal gammopathies
• Cardiac markers
• Thyroid testing
• Kidney function tests
• GI biomarkers

Competencies:

• Understanding diagnostic performance of laboratory tests
• Test method evaluation and validation
• Understanding test technology limitations

Attitudes & Commitments: learn to recognize the breadth of information that must be incorporated into the clinical reasoning process

Educational Activities:

• Assignment to clinical lab workbench
• Discussion with clinical pathologist
• Review tests requiring interpretation
• Sign-out with attending
• Attend quality and staff meetings
• Attend conferences

What Students Should do to Prepare for the Rotation: NA

Clinical Responsibilities of the Student: Preview panels requiring review by the pathologist and formulate and interpretation. Interact with clinical staff as requested by consultations and technical staff.

Patient Care Responsibilities: See Above

Call Schedule of the Student: none

Procedures to be Learned by the Student:

• Lab analytical methods
• Test interpretations
• Aspects of laboratory management

Percentage of Time Student will Participate in Ambulatory Setting (Blood Bank/Mobile Collection Event): None

Conference/Lecture/Small Group Sessions: There is not standardized material for this course

Course Hours Weekly Summary:

4/1/2016
<table>
<thead>
<tr>
<th>Computer Assisted Instruction</th>
<th>5.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case Based</td>
<td>5.0</td>
</tr>
<tr>
<td>Conference</td>
<td>0.0</td>
</tr>
<tr>
<td>Clinic</td>
<td>1.0</td>
</tr>
<tr>
<td>Grand Rounds</td>
<td>15.0</td>
</tr>
<tr>
<td>Laboratories</td>
<td>5.0</td>
</tr>
<tr>
<td>Lecture</td>
<td>5.0</td>
</tr>
<tr>
<td>Other: reading, writing, journaling</td>
<td>36.0</td>
</tr>
<tr>
<td>Total</td>
<td>36.0</td>
</tr>
</tbody>
</table>

**Content Theme Integration:**

- Biostatistics
- Decision Making
- Epidemiology
- Evidence Based Medicine
- Informatics
- Population Based Medicine
- Research Methods
- Technology Assessment

**Recommended Reading:** Selected in accordance with case material.

**Official Grading Policy:** The student will receive a grade of Honors, Pass or Fail. The student’s final grade will be submitted on the standard UC Irvine elective form. Based upon attendance, initiative and course knowledge. If the student fails the elective, a grade of “F” will be permanently recorded on his/her transcript. The student can repeat the course for a second grade; however, the “F” will not be removed from the transcript.