
BIOINF 2013, CLRES 2813
Introduction to Patient Care and Clinical Environments
Thursday 1:00-4:00PM
M-184 Parkvale Building

Course Instructors:
Natalia Morone, MD, MS
moronene@upmc.edu
412-246-6930
Steve Handler, MD, MS, CMD
handler@pitt.edu
412-647-1452
Course Support:
Toni Porterfield
tls18@pitt.edu
412-647-7176

Overview:

This 3 credit course is designed for students who have no significant clinical experience with the U.S. healthcare system. The course will introduce medical terminology and expose students to the clinical environments in which health care providers create, manage, and use clinical information. No previous clinical experience is assumed. Students will be expected to attend lectures and will spend a significant portion of their time observing and reporting on different clinical settings throughout the semester.

Course Requirements and Grading:

Class attendance and participation	20%
Written field observation reports (N=5)	30%
In-class presentations of field observations	10%
Final project	30%
Satisfactory performance on exercises (N= 10)	10%

Course Policies:

Class attendance and participation:

Students are expected to attend a minimum of 12 of 15 classes (80%).

Field observations:

This course is designed to introduce students to the clinical environment. As such, students are required to complete 6 out-of-class field observations chosen from a list of pre-specified clinical environments. One of the 6 observations will be done as a group at a local nursing home and one will be a repeat of a previous field observation in order to complete the final project. We have organized field observations so that there is significant flexibility in scheduling, and sufficient time to complete them. Site observations should take, on average, 3-4 hours to complete. Students who do not complete all 6 observations will get an incomplete. Students will be given the tools and techniques for completing the field observations through in-class didactics, a group observation experience, and a structured site-visit template for written reports.

Exercises:

Students will be required to read select chapters from Chabner's *The Language of Medicine* and satisfactorily complete the accompanying exercises on the accompanying CD-ROM with a score of $\geq 80\%$ prior to class.

Major Assignments:

1. Written commentary based on field observations of five clinical environments using a pre-specified format. Each commentary should be at least 2 typed pages. They are due on the same day that the field observation is discussed in class.
2. Oral presentation describing your findings from the written commentaries. Each commentary forms the basis of a 10-15 minute presentation and discussion of your findings and recommendations. Presentations will be grouped by type of site and will be followed by a class discussion of key insights into work in this type of setting. This can be a PowerPoint presentation, with no more than 15 slides.

3. Final Project: The final project will be a comprehensive evaluation based on one (or more) of your site visits. The final project should address a problem that you have observed during your site visit. The project could be a description of a research project, a proposed system, or an in-depth analysis of the problem.

Academic Integrity:

Students in this course will be expected to comply with [University of Pittsburgh's Policy on Academic Integrity](#). Any student suspected of violating this obligation for any reason during the semester will be required to participate in the procedural process, initiated at the instructor level, as outlined in the University Guidelines on Academic Integrity. This may include, but is not limited to, the confiscation of the examination of any individual suspected of violating University Policy. Furthermore, no student may bring any unauthorized materials to an exam, including dictionaries and programmable calculators.

Disabilities:

If you have a disability that requires special testing accommodations or other classroom modifications, you need to notify both the instructor and the [Disability Resources and Services](#) no later than the 2nd week of the term. You may be asked to provide documentation of your disability to determine the appropriateness of accommodations. To notify Disability Resources and Services, call 648-7890 (Voice or TTD) to schedule an appointment. The Office is located in 216 William Pitt Union.

Textbook and required reading:

- ***All students are required to purchase the following:*** Chabner D-E. *The Language of Medicine: Elsevier Health Sciences; Eight Edition, ISBN: 1-4160-3492-7, 2007. (Available at the Health-Science Bookstore)*
- ***Articles and other materials will be provided via CourseWeb:*** <https://courseweb.pitt.edu/>

Optional software:

- Microsoft Visio Standard (Students/Faculty=\$5/\$32) or Professional (Students/Faculty= \$5/\$67) are available for purchase through the University of Pittsburgh Software Licensing Services: <http://technology.pitt.edu/software.html>
- Value stream mapping software (available from Steven Handler) upon request: <http://www.evsm.com/>

Introduction:

The course is divided into two sections. In the first section, we will cover medical and health care concepts and terms, and discuss observational techniques. In the second portion of the course, students will investigate a variety of different clinical environments and report back to the class on their findings. Based on student interest, we will arrange additional guest lecturers to complement the discussion of the field observations.

Class Meeting Times:

Thursday 1:00-4:00PM

Department of Biomedical Informatics, Parkvale Building, M-184

Course Schedule:

Week 1 – September 3

- **Title:** Introduction to Medicine and the Organization of Healthcare, and Medical Terms Pertaining to the Body as a Whole
- **Topic:** This class will review the overall organization of the class, the nuts and bolts of using Chabner and the accompanying CD-ROM. Then we will review the basic organization of the healthcare system and finish with an introduction to the structural organization of the body and general anatomic terms.
- **Required Reading:** Chabner, Chapter 2. Acute Care, pp. 213-238, from Jonas & Kovner's Health Care Delivery in the United States, 8th Ed.
- **Group In-class Exercise:** Chabner CD-ROM exercise: 2.6 Multiple Choice.

Week 2 - September 10

- **Title:** Digestive System
- **Topic:** General overview of the gastrointestinal system, including anatomy, pathology, clinical procedures, laboratory tests, and clinical applications.
- **Required Reading:** Chabner, Chapters 5 and 6.
- **Assignment:** Chabner CD-ROM exercises: 5.6 Multiple Choice, 5.8 Matching, 5.9 Office Hours, 6.4 Office Hours, 6.5 Picture Show

Week 3 - September 17

- **Title:** Introduction to Clinical Observation using the Toyota Production System (TPS) Methodology , and The Urinary System
- **Topic:** We will introduce the Toyota Production Model as a template that will be used the rest of the semester to understand the various medical environments. General overview of the urinary system, including anatomy, pathology, clinical procedures, laboratory tests, and clinical applications.
- **Required Reading:** (1) Chabner Chapter 7 (2) Spear and Bowen. Decoding the DNA of the Toyota Production System.
- **Assignment:** Chabner CD-ROM exercises: 7.3 Multiple Choice, 7.5 Lab Tests Exercises, 7.6 Clinical Procedures Exercises, 7.7 Picture Show.
- Be sure to complete the RPF module 6 before the group nursing home observation.

Week 4 – September 24

Class rescheduled due to G20 summit.

Week 5 – October 1

- **Title:** Group Nursing Home Observation (Observation 1) and Nervous System
- **Topic:** We will discuss issues of clinical etiquette, patient privacy, and professional conduct. Students will get practical experience applying observation methods in real world settings by visiting a skilled nursing facility, Asbury Heights. Finally, this nursing home observation will serve to answer any questions regarding the clinical observations. General overview of the nervous system, including anatomy, pathology, clinical procedures, laboratory tests, and clinical applications.
- **Required Reading:** Chabner Chapter 10.
- **Assignment:** HIPAA Researchers Privacy Requirements/Internet-based Studies in Education and Research (Formerly RPF Module 6) at <https://cme.hs.pitt.edu/servlet/IteachControllerServlet?actiontotake=loadmodule&moduleid=1662> Students should print out a copy of their certificate, and hand it in at the beginning class.
- **Assignment:** Chabner CD-ROM exercises: 10.2 Multiple Choice, 10.4 and 10.5 Office Hours, 10.6 Matching.

Week 6 – October 8

- **Title:** Discussion of the Nursing Home Observation (Observation 1), Cardiovascular System and Sense Organs
- **Topic:** We will discuss the nursing home field observation. The time will also be used to review TPS tools and techniques learned previously and applied to the group skilled nursing facility site visit. We will also spend time describing and answering any questions about the upcoming site visits as well as the details of the final project. General overview of the cardiovascular system and sense organs including anatomy, pathology, clinical procedures, laboratory tests, and clinical applications.
- **Required Reading:** Chabner Chapter 11 and Chapter 17.
- **Assignment:** Field Observation 1 (Nursing Home) is due with student presentation of observation. Chabner CD-ROM exercises: 11.3 and 11.5 Multiple Choice 1 and 2, 11.7 Matching, 11.8 Office Hours. Chabner CD-ROM exercises: Multiple Choice 1 and 2, 17.3 and 17.6.
- Field observation 2 should be completed this week.

Week 7 – October 15

- **Title:** Discussion of Field Observation 2, Respiratory System, and Skin
- **Topic:** General overview of the respiratory system and skin, including anatomy, pathology, clinical procedures, laboratory tests, and clinical applications.
- **Required Reading:** Chabner Chapter 12 and Chapter 16.
- **Assignment:** Field Observation 2 is due with student presentation of observation. Chabner CD-ROM exercises: 12.5 Multiple Choice, 12.6 Office Hours, 12.7 Paragraph Matching. Chabner CD-ROM exercises: Multiple Choice 16.4 and 16.6, and Matching 16.3.
- Field observation 3 should be completed this week.

Week 8 - October 22

- **Title:** Discussion of Field Observation 3 and the Lymphatic and Immune Systems
- **Topic:** General overview of the lymphatic and immune systems, including anatomy, pathology, clinical procedures, laboratory tests, and clinical applications.
- **Required Reading:** Chabner Chapter 14.
- **Assignment:** Field observation 3 is due with student presentation of observation. Chabner CD-ROM exercises: 14.2 Multiple Choice, 14.4 Office Hours.
- Field Observation 4 will be done this week.

Week 9 - October 29

- **Title:** Discussion of Field Observation 4 and the Blood System
- **Topic:** General overview of the blood system, including anatomy, pathology, clinical procedures, laboratory tests, and clinical applications.
- **Required Reading:** Chabner Chapter 13.
- **Assignment:** Field Observation 4 is due with student presentation of observation. Chabner CD-ROM exercises: 13.2 and 13.4 Multiple Choice, 13.6 Office Hours Matching.
- Field Observation 5 will be done this week.

Week 10 – November 5

- **Title:** Discussion of Field Observation 5 and the Musculoskeletal System
- **Topic:** General overview of the musculoskeletal system, including anatomy, pathology, clinical procedures, laboratory tests, and clinical applications.
- **Required Reading:** Chabner Chapter 15.
- **Assignment:** Field Observation 5 is due with student presentation of observation. Chabner CD-ROM exercises: 15.2 Multiple Choice, 15.6 Office Hours.
- *Repeat a previous field observation in order to complete final project.*

Week 11 – November 12

- **Title:** The Endocrine System
- **Topic:** General overview of the endocrine system, including anatomy, pathology, clinical procedures, laboratory tests, and clinical applications.
- **Required Reading:** Chabner Chapter 18.
- **Assignment:** Chabner CD-ROM exercises: 18.5 and 18.7 Multiple Choice 1 and 2.
- *Repeat a previous field observation in order to complete final project.*

Week 12 - November 19

- **Title:** Medical error
- **Topic:** We will provide a conceptual framework for discussing medical error.
- **Required Reading:** None
- *Repeat a previous field observation in order to complete final project.*

Week 13 - November 26

- **No class – Thanksgiving break**

Week 14 – December 3

- **Title:** TPS in action
- **Topic and Guest Lecturer:** Joanne M. Riley, RN, MPM, Senior Administrator General Internal Medicine
- **Required Reading:** none
- *Repeat a previous field observation in order to complete final project.*

Week 15 – December 10

- **Title:** Final project presentations

- **Required Reading:** none

Week 16 - December 17

- **Title:** Class Evaluation, and final project presentations
- **Required Reading:** None
- **Final Reports are Due**