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HESA 110 Medical Terminology

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HESA 110-02: Medical Terminology
Fall 2018

Department of Health Services Administration
College of Professional Sciences
Xavier University

Schedule: Tuesday and Thursday 11:45 am to 1:00 pm
Classroom: Hailstones 1
Credit Hours: Three Undergraduate Credit Hours
Prerequisites: None
Faculty: Edmond A Hooker, MD, DrPH
 Associate Professor, Health Services Administration
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Program Director: Dr. Rick Browne PhD brownef@xavier.edu
 Program Administrator: Ms. Judy Janzen Med, Schott 404 janzen@xavier.edu
 Xavier Writing Center: Conaton Learning Center

HESA110 Course Description (from the Xavier University Catalog):

“This course introduces students to the language of medicine while reviewing the major organ systems of the body.”

HSA Department Mission Statement (2011):

In keeping with its Catholic, Jesuit tradition, the mission of the Department of Health Services Administration at Xavier University is to educate knowledgeable, highly skilled, values-oriented future leaders who will contribute to the health of society by continuously improving the management of health related organizations. HSA will accomplish its mission through:

- Challenging students in the classroom and in applied field experiences including internships and administrative residencies
- Developing internal and external collaborative relationships with academicians and with health care practitioners which lead to innovations in teaching as well as in the delivery of health services
- Incorporating research, scholarship, and collaborative projects into the classroom experiences and fieldwork.

Objectives, SLO's, Competency Level, and Assessment – HESA 110			
Course Objective	Student Learning Outcome	Minimum expected level of competence	Method of assessment
Use common and prevalent	Be able to use common and prevalent medical terminology	2 – Competent Defines common medical terms appropriately. Is able	Quizzes, Exams,

medical terminology	(BSHSA SLO 2)	to apply common medical terms when discussing medical care and administration.	writing assignments
Identify specialist professional roles, as they relate to the care of systems and human pathophysiology	Be able to describe the various professional roles, their respective cultures, and how they work together in the delivery of health care services (BSHSA SLO 3)	1 – Basic Identifies basic roles and cultures of the providers. Unable to articulate how these providers work together to deliver healthcare	Quizzes, Exams
Use clear and effective written communication skills	Be able to use clear and effective written communication skills (BSHSA SLO 10)	2-Competent Writing shows correct grammar and writing skills and these are applied consistently. There is generally good organization of thoughts.	Writing assignments Exam answers Quizzes

Required Readings

1. The Merck Manual Home Health Handbook: Third Home Edition **ISBN-10:** 0911910301.
2. Essential English Grammar by Philip Gucker. ISBN 9780486216492
3. www.Medpagetoday.com- Daily news on medical topics

Grade Requirement:

Introductory Course Grades for Students majoring in Health Services Administration:

- Students must achieve a grade of B- or higher in both HESA 101 and HESA 110. Grades lower than B- will result in a student not receiving credit for that course requirement towards their Health Services Administration degree.
- Extra credit will not be offered at any point during the course. Please come talk to me if you feel that your grade will not meet the requirement for your major.

Retaking Introductory Courses:

- If a student receives a grade of C+ or below in HESA 101 or HESA 110, they may retake that course two times as per the general university policy.
- The student will be considered on departmental probation until they achieve or surpass the required grade for the designated course.
- The course must be retaken at Xavier.
- Students may retake any and all HESA courses for which they fail to meet department requirements two times.
- If a student fails to meet department grade standards after retaking a course two times, they will be dismissed from the major.
- If being dismissed, students will meet with the BSHSA Program Director and determine into which major or program they would like to be placed.

GPA Requirement for Health Services Administration Majors:

Students must maintain an overall combined major/concentration GPA of 2.67. This GPA is made up of all courses taken in the major and concentration (HESA courses), and equates to a B- average for all major courses. If the student is to change concentrations, grades from their first concentration still apply to the calculation of this GPA. See the program website for a full description of the policy.

Inclusivity Statement:

The Department of Health Services Administration and its faculty and staff are committed to providing an atmosphere for learning that respects diversity, in which all students feel comfortable and safe to learn, and in which all students feel like valued members of the HSA community. We are committed to addressing issues that put such an atmosphere in jeopardy, and to being active allies to diverse students. In order to build a positive classroom community, we ask that students:

- Appreciate the opportunity that we have to learn from each other in this community;
- Share their unique experiences, values and beliefs;
- Be open to the views of others;
- Honor the uniqueness of their peers;
- Communicate in a respectful manner;
- Keep confidential discussions that the community has of a personal (or professional) nature;
- Utilize this opportunity together to discuss ways in which we can create an inclusive environment in this course and across the Xavier community.

Attendance Policy: Reasonable attendance at all class meetings is expected. If a student is unable to attend a class, **the responsibility of missed class content is the sole responsibility of the student.** Tests and written assignments will include content covered in class or in the assigned readings. See University Catalogue.

Attendance Procedure:

- 1) You will be documented as **present** if you are in class and on time.
- 2) The instructor will document student attendance.

3) Excused absences include:

- 1) A funeral, with a program, obituary or holy card
- 2) A required activity for another class or university sponsored athletic event, with a memo from the professor or program director
- 3) A documented medical event, with dated, timed and signed documentation (all other Protected Health Information may be redacted)
- 4) A documented legal event, with dated, timed and signed documentation (all other confidential information may be redacted)

You have **one week from the date of your return** to class to submit documentation for excused absences to your instructor. Failure to submit documentation within one week will result in your absence being unexcused.

4) Unexcused absences

Unexcused absences include, for example:

- Social events, such as weddings, parties, etc.

- Events related to outside employment, such as job training, orientation, business travel, etc.
- Personal travel, such as leaving campus early or coming back late from a holiday break
- Problems due to poor planning on your part, such as missing class due to oversleeping or exhaustion due to staying up all night to complete an assignment, etc.

You are allowed a specified number of unexcused absences without penalty.

- One unexcused absence for courses that meet once per week
- Two unexcused absences for courses that meet twice per week
- Three unexcused absences for courses that meet three times per week

You are advised to save these “free” days for unavoidable weather, minor illness and personal events.

Penalty: Unexcused absences, greater than the number specified above, will result in the reduction of the student’s final grade of 1.5% for each unexcused absence.

- 5) Final determination is at the discretion of the instructor for the course. Courses with teams, projects and community service may have additional specifications.

Assignments:

All assignments will have a description that is available via Canvas. The assigned dates noted in the course schedule above are intended to help you stay on track with completing your work for this course. Assignment descriptions will be available by the assigned date at the latest, but will likely be available before that date as well. All case studies, papers, and the group project should be written utilizing APA format. The library provides a good resource on APA format via the following website:

http://www.xavier.edu/library/help/apa_guide.pdf. Also, RefWorks available via the library website is a tool that can assist you in creating reference pages in APA format.

Quizzes

There will be a total of 22 quizzes during the semester. These will be closed book. They will occur at the beginning of the class and be a combination of multiple choice and short answer. There will be a time limit of 10 minutes to complete the quiz. The quiz will cover the assigned readings for the week. All students are expected to have read and studied the week’s terminology prior to class. In order to help students, I have included a list of important terms and objectives for the readings. However, there will be some questions each week from the readings that are not listed in the syllabus. This is to ensure that students actually read the assignments.

Writing Assignments (THIS IS A WRITING FLAG CLASS)

Being a competent writer is a critical skill for all college graduates. In order to be deemed competent, you must be able to write without grammatical or spelling errors, have an organized manuscript, and be able to write in a persuasive manner. In this course, you will both learn and apply grammatical rules. During the first half of the course, at each class period, we will review grammatical concepts and rules. Students are required to read the

book by Gluck and complete the exercises found at the end of the chapter prior to each the class period for which they are assigned.

Each student will be required to write three papers during the course. These papers will be graded for grammar, spelling, and the ability to present information in an organized and persuasive fashion. They should be 12-point font and should be double spaced. The papers should have the students name at the top of the paper along with the course number and the date the paper is due. The three papers are as follows:

1. Paper #1: This paper should be a 250 to 300-word reflection on a medical news article found in either the Wall Street Journal or on MedPageToday. In this paper, you need to have three paragraphs. The first paragraph should quickly summarize the findings of the research being presented. This should be in your own words. **Do not use** quotes from the article. The second paragraph should describe why you think this is important to healthcare administrators and to you personally. For example, if the news article described a new drug for disease that affects a family member or yours, please make the reflection very personal. The final very short paragraph should describe next steps for this medical research or knowledge.
2. Paper #2: This paper should be a 350 to 500-word essay on stroke. You should describe the different types of strokes (Ischemic and Hemorrhagic) and the subtypes with each of those (Embolic, Thrombotic, Subarachnoid, and Intracerebral). There should also be a discuss of transient ischemic attacks. Each type of stroke should be defined. Risk factors (both modifiable and non-modifiable) should be discussed. The relative incidence of each should be mentioned, as should treatment options for each.
3. Paper #3: This paper should be a 350 to 500-word essay on the controversies surrounding required immunizations. There should be at least three references, and these are not included in the word count. You must discuss the arguments that people use against vaccinations, the counter arguments to these concerns, and argue persuasively that vaccinations should be required of all citizens. The paper must discuss, at a minimum, the following times: autism, herd immunity, cost, personal freedom, and risk.
4. Paper #4: This paper should be a 350 to 500-word essay on the different types of nurses in the United States. You need to describe the training of each type of nurse and their scope of practice. You also need to discuss the controversy surrounding the push by some to only utilize registered nurses with a bachelor's degree in hospitals. Make sure that you have references that support your statements.

All papers will be graded for grammar and spelling, as well as for organization and content. Each paper will be returned to you with detailed comments. You will be expected to make corrections and turn the paper back in. This is worth 10% of the grade. Do not turn in a rough draft expecting the professor to fix all your mistakes. 90% of your grade for each written assignment will be calculated on the first paper turned in.

I require each student to have a peer editor. This means that you should write your paper and turn it in to your peer editor one week before your paper is due to the professor. Again, it is not the job of the peer-editor to write or rewrite your paper. They should point out

obvious grammatical mistakes and comment on the clarity and organization of the paper. The professor has assigned everyone a peer editor for each paper, which will change with each paper.

You are welcome to consult the Xavier Writing Center for all assignments. However, realize that they may not give perfect advice or editing. Your grade is dependent on the quality of the final paper, and having the approval of a student in the writing center is not an excuse for grammatical errors.

Many students like to use Grammarly (<https://www.grammarly.com/>). Again, I would warn you that this website is flawed. Many previous students have put their paper through Grammarly and felt confident about their paper. However, when paper was graded, it had multiple errors.

Exams

There will be three exams this semester. Each one will cover the material up to that point from the last exam. The final exam is cumulative.

Since this is a Writing Flag course, I will grade for grammar in your answers on the exams. All exams are short answer and essay format.

Participation:

Participation will count for 6 % of your final grade. Active participation includes:

- Being in class
- Being on time to class
- Being awake and alert in class, not focused on other things (i.e. other homework or activities)
- Asking questions
- Offering your perspectives
- Sharing information
- Being active in small group activities
- Showing respect to your classmates, guests, faculty, etc.

If you are engaged in class, this should be an easy 6 % to achieve.

Canvas:

Canvas will be used in a variety of ways for this class. The syllabus, assignment descriptions, and articles/chapters outside of the class will all be available via Canvas. In the spirit of sustainability, such materials will not be printed off and handed out in class. Papers and the group project should also be turned in via Canvas through "Turnitin". Papers will be graded and returned via Canvas.

Students with Disabilities:

Qualified students with disabilities who will require disability accommodations in this class are encouraged to make their requests to me by sharing their Accommodation Letters with me at the beginning of the semester either during office hours or by appointment. Disability related information is confidential. If you have not previously contacted Disability Services, I encourage you to do so by phone at 513-745-3280, in person on the Fifth Floor of the Conaton Learning Commons, Room 514, or via e-mail to Cassandra

Jones at jonesc20@xavier.edu , to coordinate reasonable accommodations as soon as possible as accommodations are not retroactive.

It is my goal that this class be an accessible and welcoming experience for all students. If you are a student with a disability who may have trouble participating or effectively demonstrating learning in this course, contact me to arrange an appointment to share your Accommodation Letters from Disability Services and to discuss your needs. Disability related information is confidential. If you have not contacted Disability Services (located in the Learning Assistance Center) to arrange accommodations, I encourage you to do so by contacting Cassandra Jones, by phone at 513-745-3280, in person on the Fifth Floor of the Conaton Learning Commons, Room 514, or via e-mail at jonesc20@xavier.edu as soon as possible as accommodations are not retroactive.

Academic Honesty:

“The pursuit of truth demands high standards of personal honesty. Academic and professional life requires a trust based upon integrity of the written and spoken word. Accordingly, violations of certain standards of ethical behavior will not be tolerated at Xavier University. These include theft, cheating, plagiarism, unauthorized assistance in assignments and tests, unauthorized copying of computer software, the falsification of results and material submitted in reports or admission documents, and the falsification of any academic record including letters of recommendation. All work submitted for academic evaluation must be the student’s own. Certainly, the activities of other scholars will influence all students. However, the direct and unattributed use of another’s efforts is prohibited as is the use of any work untruthfully submitted as one’s own. Penalties for violations of this policy may include one or more of the following: a zero for that assignment or test, an “F” in the course, and expulsion from the University. The dean of the college in which the student is enrolled is to be informed in writing of all such incidents, though the teacher has full authority to assign the grade for the assignment, test, or course. If disputes of interpretation arise, the student, faculty member, and chair should attempt to resolve the difficulty. If this is unsatisfactory, the dean will rule in the matter. As a final appeal, the academic vice president will call a committee of tenured faculty for the purpose of making a final determination.”

Faculty Note:

In addition to the above (taken directly from the University Catalog), please be aware that cutting and pasting from the Internet is plagiarism, and will be treated in the same manner as any other type of plagiarism. If you use more than three words written by someone else, I expect it to be in quotes. When you are writing you should use your own words and thoughts, not those of anyone else. You **may not** take a sentence and change one to two words and call it your own.

Technology Policy

The use of laptops, tablets, phones, or other electronic devices is not permitted during class. Students will need to take notes using paper and pencil/pen. If there is an extenuating reason that requires you to be able to use some form of technology, please talk with your instructor directly about this.

Late Assignment Policy:

Late assignments will accrue a penalty of 10% per day the assignment is late. An assignment is considered one day late if it is submitted past the identified due date/time. It

is considered two days late if it is submitted any more than 24 hours past the identified due date/time, and so forth. This includes weekends! Once an assignment is more than 10 days late, it will become a zero and will not be accepted for credit.

If a student wants an extension for an assignment, this must be received no less than 48 hours before the assigned due date/time. Extensions are not guaranteed, and are at the discretion of the instructor. Extensions may include a late penalty.

Evaluation

Grading Weights

Terminology quizzes	0.75% each	15%
Exam 1		15%
Exam 2		15%
Exam 3		15%
Exam 4		15%
Writing Assignments	5% each	20%
Class Participation		5%

Grading Scale

A	94-100	C	73-76
A-	90-93	C-	70-72
B+	87-89	D+	67-69
B	83-86	D	63-66
B-	80-82	D-	60-62
C+	77-79	F	0-59

This syllabus and course outline is subject to change due to unforeseen circumstances.

Session (Dates)	Topic	Readings	Assignment
January 9	Syllabus Review HIPAA/HITECH Healthcare Associated Infections	Articles on Canvas http://www.health.gov/hai/prevent_hai.asp http://www.cdc.gov/HAI/infectionTypes.html	None
January 11	Medical Training Evaluating Physicians Medical Terminology	Articles on Canvas Study Guide	Quiz
January 16	Healthcare Associated Infections	Articles on Canvas	Quiz
January 18	Cardiology I	Merck pages 316-331 Gucker 1-12	Quiz
January 23	Cardiology II	Merck pages 333, 338, 352, 356-357, 366-367, 371-2, 375-6, 396-397 Gucker 13-20	Quiz Paper 1 due
January 25	Cardiology III	Merck Pages 401-418, 427	Quiz

		Gucker 21-27	
January 30	Pulmonary I	Merck Pages 444-458 Gucker 28-38	Quiz
February 1	Pulmonary II	Merck Pages 461-464; 473-4; 476 [figure]; 480-1; 488; 1194-1195; 1241-1242 Gucker 39-47	Quiz
February 6	EXAM 1	EXAM 1	EXAM 1
February 8	Endocrine	Merck Pages 979-980; 981; 990-991; 992; 994; 999; 1005-1010 Gucker 48-56	Quiz
February 13	Orthopedics	Merck Pages 534-538; 543-544; 559; 563; 601; 1952; 1960-1962 Gucker 57-63	Quiz
February 15	Dermatology	Merck Pages 1276-1277; 1284; 1299-1300; 1333-1336; 1948-1949 Gucker 64-68	Quiz Paper 2 due
February 20	Central Nervous System	Merck Pages 623-627; 688; 693-694; 709; 718-731; 788 Gucker 69-75 Other readings for the week: http://en.wikipedia.org/wiki/Stroke	Quiz
February 22	Special Senses	Merck Pages 1375-1378; 1389; 1412-1414; 1424-1425 Gucker 76-85	Quiz
February 27	Review and Catch up		
March 1	EXAM 2	EXAM 2	EXAM 2
March 6	NO CLASS SPING BREAK		
March 8	NO CLASS SPING BREAK		
March 13	Woman's Health	Merck Pages 1489-1496; 1501-1503; 1514-1515; 1541-1542; 1546; 1549-1554; 1558-1559; 1570-1576; 1616-1621 Gucker 99-108	Quiz
March 15	Men's Health	Merck Pages 250-252; 260-266; 299-300; 302; 1254-1258; 1465-1468; 1471-1481 Gucker 109-112	Quiz
March 20	Digestive	Merck Pages 110-113; 129-130; 137-140; 145; 168-	Quiz Paper 3 due

		169; 172; 176-178; 181; 193-196; 203; 210-211; 227-232; 242-246 Gucker 113-116	
March 22	Radiology and Surgery	Merck Pages 951-961; 2034-2045; 2053-2059 Gucker 117-119	Quiz
March 27	No CLASS-ACHE	No CLASS-ACHE	No CLASS-ACHE
March 29	EXAM 3	EXAM 3	EXAM 3
April 3	Pediatrics	Merck Pages 1684-1689; 1736; 1739; 1764; 1772; 1777-1779; 1782; 1851; 1856 http://kidshealth.org/parent/system/medical/newborn_screening_tests.html	Quiz
April 5	NO CLASS		
April 10	Pharmacology	Merck Pages 76-85; 99-105; 2059-2071	Quiz Paper 4 due
April 12	Cancer	Merck Pages 1075-1082; 1086-1092	Quiz
April 17	Mental Health	Merck Pages 846-849; 853; 862-863; 873; 876; 889- 890; 1884-1885	Quiz
April 19	Review Session		
April 24	EXAM 4	Exam 4	

STUDY GUIDE

This study guide is intended to help you focus your readings, not eliminate your reading the book. You will find that many of my questions for quizzes and exams come directly from this study guide. However, some questions on the quizzes will be from the readings and not on the list. Many of the essay questions come from the readings and class discussion.

Class 1: January 9

- HIPAA Health Insurance Portability and Accountability Act- Intended to keep personal health information confidential
- Business associate Defined in HIPAA as an entity that does business for or on behalf of a HIPAA Covered Entity
- Covered entity Defined in HIPAA as provider, clearinghouse, or health plan
- Guidance A document such as a book, pamphlet, and so on, giving information, instructions, or advice
- HIE Health Information Exchange supports the sharing of health-related information to facilitate continuing care through the utilization of EHRs
- PHI Protected Health Information is any information about health status, provision of health care, or payment for health care that can be linked to a specific individual.
- HITECH "Health Information Technology for Economic and Clinical Health," contains many new laws relating to the *use and disclosure of PHI*. This Act also includes the privacy and security provisions.

Potential Essay Questions

1. What is HIPAA and what are the main provisions of the law?
2. What is HITECH and how did it modify HIPAA?
3. Does HIPAA prohibit sharing health information with family and friends?

Class 2: January 11

- a absence of
- ante before
- anter(i) front, forward
- anti against
- aut self
- bi, bis twice, double, two
- contra against, counter
- dent tooth
- dipl(o) double
- dys bad, faulty, abnormal
- emia blood
- end(o) inside
- hem(ato) blood
- hemi half

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. hyper 2. Physical Therapist | <p>high</p> <p>Physical Therapists (PTs) provide services that help restore function, improve mobility, relieve pain, and prevent or limit permanent physical disabilities of patients with injuries or disease. Requires a master's degree, but there is a move toward requiring doctorates.</p> |
| <ol style="list-style-type: none"> 3. Occupational Therapist | <p>Occupational Therapist (OTs) promote health by enabling people to perform meaningful and purposeful activities. They deal with anything that "occupies" your time (ranging from using a computer to caring for daily needs such as dressing, cooking, eating, and driving). Requires a master's degree, but there is a move toward requiring doctorates.</p> |

Potential Essay Questions

1. What are the similarities and differences between MDs and Dos?
2. What is a hospitalist, and how have they changed the way people are cared for in the hospital?
3. What are concierge physicians and what are the positive and negative issues surrounding the increased number of physicians who are setting up these type of practices?

Class 3: January 16

Terminology to be learned

- | | |
|--|--|
| <ol style="list-style-type: none"> 4. hypo 5. iatr(o) 6. infra 7. inter 8. mal 9. megal(o) 10. necr(o) 11. opsy 12. osis 13. phleb 14. poly 15. post 16. poster(i) 17. pseud(o) 18. supra 19. therm 20. HAI | <p>low</p> <p>doctor</p> <p>beneath</p> <p>between</p> <p>bad</p> <p>large</p> <p>death</p> <p>examination</p> <p>condition</p> <p>vein</p> <p>many</p> <p>after</p> <p>back, behind</p> <p>false</p> <p>above</p> <p>heat</p> <p>Healthcare Associated Infections (also called hospital-acquired infections) Infections acquired during the course of receiving healthcare treatment for other conditions</p> |
| <ol style="list-style-type: none"> 21. CLABSI | <p>Central line-associated bloodstream infections result in thousands of deaths each year and billions of dollars in added costs to the U.S.</p> |

- healthcare system, yet these infections are preventable.
22. CAUTI
Catheter associated urinary tract infection is an infection involving any part of the urinary system, including urethra, bladder, ureters, and kidney.
23. SSI
A surgical site infection is an infection that occurs after surgery in the part of the body where the surgery took place.
24. VAP
Ventilator-associated pneumonia is a lung infection that develops in a person who is on a ventilator.
25. *Clostridium difficile* Infection
C. difficile causes diarrhea linked to 14,000 American deaths each year. Those most at risk are people, especially older adults, who take antibiotics and also get medical care.

Potential Essay Questions

1. Why are healthcare acquired infections important to healthcare administrators?

Class 4: January 18 CARDIOLOGY I

Objectives for the week

1. Understand commonly used medical terminology in cardiology

Readings prior to class- pages 316-331; 333, 338, 352, 356-357, 366-367, 371-2, 375-6, 396-397; 401-418, 427. These are the readings for class

- angio vessel
- arteri(o) artery
- ather(o) fatty
- brady slow
- cardi(o) heart
- cyan(o) blue
- gram, graph record
- intra inside
- itis inflammation
- lys(is) dissolve
- logy study of
- logist physician
- Sign
measures Something that a healthcare provider
- Vital signs
Pulse, Blood Pressure, Respiratory Rate, Temperature and Pulse oximetry.
- Symptom
that Something that the patient tells the provider
- Cardiac stress test
they have experienced
exercise stress testing, the person walks on a treadmill or rides a stationary bicycle while being monitored by ECG. This procedure can help doctors determine whether the

- patient has heart problems and is coronary angiography or coronary artery bypass surgery is needed. If people cannot exercise, testing is performed after a drug that makes the heart work harder is injected.
- Coronary Angiogram
This procedure provides information about The coronary arteries, which supply the heart with oxygen-rich blood. Coronary angiography is similar to catheterization of the left side of the heart, and the two procedures are almost always done at the same time. The catheter is threaded toward the heart, then into the coronary arteries. During insertion, the doctor uses fluoroscopy (a continuous x-ray procedure) to observe the progress of the catheter as it is threaded into place. After the catheter tip is in place, a radiopaque dye, which can be seen on x-rays, is injected through the catheter into the coronary arteries, and the outline of the arteries appears on a video screen and is recorded on a tape or disk.
- Electrocardiogram (EKG, ECG)
quick, simple, painless procedure in which the heart's electrical impulses are amplified and recorded on a piece of paper.
- Echocardiogram
an image of structures in the heart produced by ultrasound waves

Potential Essay Questions

1. Describe how the heart receives its blood supply
2. What is the benefit and risk of adding radionuclide imaging to a cardiac stress test?
3. What is the major risk of using CT angiography for diagnosing coronary artery disease?

Class 5: January 23 Cardiology II

- plasty repair
- sten(o) narrow
- steth(o) chest
- tachy fast
- therap treatment
- thorac(o) chest
- thromb(o) clot
- ven(o) vein
- Hypertension High blood pressure (hypertension) is abnormally high pressure in the arteries.
- Congestive Heart Failure Heart failure is a disorder in which the heart pumps blood inadequately, leading to reduced blood flow, back-up (congestion) of blood in the veins and lungs, and other changes that may further weaken the heart.

- Atrial Fibrillation and flutter

Heart failure can be due to ischemic heart disease or myocardial damage from a viral infection of the heart muscle.

Atrial fibrillation and atrial flutter are very fast electrical discharge patterns that make the atria contract very rapidly, with some of the electrical impulses reaching the ventricles and causing them to contract faster and less efficiently than normal. Ventricular fibrillation is uncoordinated

- Ventricular fibrillation series of

very rapid, ineffective contractions of the ventricles caused by many chaotic electrical impulses. Patient is dead unless CPR started.

- Atherosclerosis

Atherosclerosis is a condition in which patchy deposits of fatty material (atheromas or atherosclerotic plaques) develop in the walls of medium-sized and large arteries, leading to reduced or blocked blood flow.

- AED

Automated External Defibrillator.

Potential Essay Questions

1. What is congestive heart failure and why is it important to healthcare administrators?
2. What is hypertension, and what are the causes?
3. What is atrial fibrillation and why is it important?
4. What is ventricular fibrillation and why is it important?
5. What is a normal blood pressure for an adult?
6. Why is CPR important?
7. What is Hands-only CPR?

Class 6: January 25 Cardiology III

- Angina

Angina, also called angina pectoris, is temporary chest pain or a sensation of pressure that occurs while the heart muscle is not receiving enough oxygen. Does not cause death of heart muscle.

- Acute Coronary Syndromes (ACS)

Acute coronary syndromes result from a sudden blockage in a coronary artery. This blockage causes unstable angina or heart attack (myocardial infarction) depending on the location and amount of blockage.

- Coronary artery disease (CAD)

a condition in which the blood supply to the heart muscle is partially or completely blocked

- Cardiac Catheterization

In cardiac catheterization, a thin catheter (a

- tubular, flexible surgical instrument) is inserted into an artery or vein through a puncture made with a needle or a tiny incision. A local anesthetic is given to numb the insertion site. The catheter is then threaded through the major blood vessels and into the heart chambers and the coronary arteries.
- Angiogram
 - Angioplasty

pictures of the arteries
a balloon-tipped catheter into a large artery (usually the femoral artery), and threads the catheter through the connecting arteries and the aorta to the narrowed or blocked coronary artery. Then the doctor inflates the balloon to force the atheroma against the arterial wall and thus open the artery.
- PCI

Percutaneous Coronary Intervention (also called percutaneous transluminal coronary angioplasty—PTCA) refers to angioplasty with or without stenting of the coronary artery.
- Coronary artery stenting

A tube made of wire mesh (a stent) is placed over the deflated balloon at the catheter's tip and inserted with the catheter. When the catheter reaches the atheroma, the balloon is inflated, opening up the stent. Then the balloon-tipped catheter is removed, and the stent is left in place to help keep the artery open.
- Coronary Artery Bypass Graft

Coronary artery bypass grafting (CABG) is also called bypass surgery or coronary artery bypass surgery. In the procedure, doctors take an artery (from the chest wall) or vein from the legs to connect the aorta (the major artery that takes blood from the heart to the rest of the body) to a coronary artery past the point of its blockage.
- CT Angiography

This procedure uses CT and a radiopaque dye to produce 2- and 3-dimensional images of blood vessels, including the arteries that supply the heart (coronary arteries). The dye is injected into a vein (not an artery as in conventional angiography), usually in the arm. Images are taken rapidly and are timed so that they show the dye flowing through the blood vessels being evaluated. The computer digitally removes all tissues except blood vessels from the images.

- STEMI ST-elevation myocardial infarction. This type of heart attack is diagnosed using an EKG. These are the heart attacks that must either immediately to the cardiac cath lab or must receive thrombolytics.
- NSTEMI Non-ST-elevation myocardial infarction. This type of heart attack is not readily apparent on the EKG. It requires blood tests to diagnose. Some of these patients may go to the cath lab immediately, but not all. They never are treated with thrombolytics.
- ICD Implantable Cardiac Defibrillator is a small device that's placed in the chest or abdomen. Doctors use the device to help treat irregular heartbeats called arrhythmias (ah-RITH-me-ahs). An ICD uses electrical pulses or shocks to help control life-threatening arrhythmias, especially those that can cause sudden cardiac arrest
- LVAD Left Ventricular Assist Device is a mechanical pump that's used to support heart function and blood flow in people who have weakened hearts. The device takes blood from a lower chamber of the heart and helps pump it to the body and vital organs
- Thrombolytic These are clot-dissolving drugs that are given to a person having an STEMI when PCI is not available within 90 minutes.
- HDL High density lipoprotein is the good cholesterol
- LDL Low density lipoprotein is the bad cholesterol
- Myocardial Infarction Heart attack (myocardial infarction) is a medical emergency in which some of the heart's blood supply is suddenly and severely reduced or cut off, causing the heart muscle (myocardium) to die because it is deprived of its oxygen supply. Please note that this is **NOT** called a cardiac infarction.

Potential Essay Questions

- What is the difference between myocardial ischemia (angina) and myocardial infarction?
- What are the treatment options for STEMI
- What is the major risk of using thrombolytic agents? What is a better option if it is available?

Class 7: January 30 PULMONARY I

- aden(o) gland
- glyc(o) glucose
- pnea breathing
- pneum(ato) air
- pneumon(o) lung
- pulmon(o) lung
- Larynx voice box
- Bronchi two branches off the trachea
- Bronchiole branches off the bronchi
- Pulse Oximetry Noninvasive measurement of oxygen concentration in the blood using a sensor clipped on a finger or an earlobe.

- Capnography concentration Noninvasive measurement of CO₂ in expired air.

- Alveoli air sacs where oxygen exchange occurs
- Trachea windpipe
- Cough a sudden, explosive exhalation of air; the function of a cough is to clear material from the airways.

- Dyspnea shortness of breath or hard time breathing
- Wheezing Wheezing is a whistling, musical sound during breathing resulting from partially obstructed airways.

- Cyanosis bluish discoloration of the skin resulting from an inadequate amount of oxygen in the blood.

- Pulmonary function tests (PFTs) test that measure the lungs' capacity to hold air, to move air in and out, and to exchange oxygen and carbon dioxide.

- Bronchoscopy a direct visual examination of the voice box (larynx) and airways through a flexible viewing tube (a bronchoscope). A light at the end that allows a doctor to look down through the larger airways (bronchi) into the lungs.

Class 8: February 1 PULMONARY II

- Bronchitis inflammation of the large airways that branch off the trachea (bronchi), usually caused by infection but sometimes caused by irritation from inhaling gases, smoke, dust particles, or some types of pollution.
- Acute Bronchitis Bronchitis (see definition above) that last less than 90 days.
- Pneumonia Pneumonia is an infection of the small air

- Community Acquired Pneumonia
institutions or
 - Hospital Acquired Pneumonia
 - Ventilator Associated Pneumonia
 - COPD
 - Pulmonary Embolism
 - Pneumothorax
 - Emphysema
 - Chronic Bronchitis
 - Asthma
 - Tuberculosis
 - Influenza
 - Stethoscope
- sacs of the lungs (alveoli) and the tissues around them.
- pneumonia that develops in people with limited or no contact with medical settings.
- pneumonia develops in people who have been hospitalized, typically after about 2 days or more of hospitalization.
- pneumonia that develops in hospitalized patients who are on a ventilator.
- Chronic obstructive pulmonary disease is persistent obstruction of the airways occurring with emphysema, chronic bronchitis, or both disorders.
- Pulmonary embolism is the sudden blocking of an artery of the lung (pulmonary artery) by an embolus—usually a blood clot (thrombus).
- A pneumothorax is a pocket of air between the two layers of pleura, resulting in collapse of the lung.
- Emphysema is irreversible enlargement of many of the 300 million air sacs (alveoli) that make up the lungs and destruction of the air sac walls.
- Chronic bronchitis is characterized by a cough that produces sputum for 3 months or more during 2 successive years; the cough is not due to another lung disease
- Asthma is a condition in which the airways narrow—usually reversibly—in response to certain stimuli
- Tuberculosis is a contagious infection caused by an airborne bacterium, *Mycobacterium tuberculosis*.
- Influenza (flu) is infection of the lungs and airways with one of the influenza viruses. It causes a fever, runny nose, sore throat, cough, headache, muscle aches (myalgias), and a general feeling of illness (malaise).
- An instrument for listening to sounds within the body

- Hypoxia low oxygen level in the blood

Potential Essay Questions

- What is a MDI and a spacer?
- What is pneumonia and what causes it?
- What is pneumococcal vaccine and who should receive it?
- What is influenza and how can it be prevented?
- What is meant by community-acquired pneumonia and hospital-acquired pneumonia?
- What is Tuberculosis and how is it diagnosed?
- What is the difference between primary TB, latent infection, and active TB?
- What is a PPD?
- Why should patients not receive antibiotics for most cases of bronchitis?

Class 9: February 6

EXAM 1

Class 10: February 8 Endocrine

- Diabetes

Diabetes mellitus is a disorder in which blood sugar (glucose) levels are abnormally high because the body does not produce enough insulin or because of insulin resistance.
- Endocrine system

The endocrine system consists of a group of glands and organs that regulate and control various body functions by producing and secreting hormones.
- Pituitary Gland housed base function therefore

The pituitary is a pea-sized gland that is within a bony structure (sella turcica) at the of the brain. The pituitary controls the of most other endocrine glands and is sometimes called the master gland.
- Adrenal Gland the of as blood

The body has two adrenal glands, one near top of each kidney. The inner part (medulla) the adrenal glands secretes hormones, such as adrenaline (epinephrine), that help control pressure, heart rate, sweating, and other activities also regulated by the sympathetic nervous system. The outer part (cortex) different hormones, including corticosteroids (cortisone-like hormones, such as cortisol) mineralocorticoids (particularly aldosterone, which controls blood pressure and the levels salt and potassium in the body).
- secretes

secreted
- and

and
- of

of
- Thyroid gland

small endocrine gland that lies in the neck just below the adam's apple.
- Type 1 diabetes

more than 90% of the insulin-producing cells of the pancreas are permanently

- destroyed. The
 - Type 2 diabetes
 - resistance to the
 - Gestational Diabetes
 - Hypoglycemia
- pancreas, therefore, produces little or no insulin.
 the pancreas continues to produce insulin, sometimes even at higher-than-normal levels. However, the body develops effects of insulin, so there is not enough insulin to meet the body's needs.
 High blood sugar found during pregnancy
 Low blood sugar

Potential Essay Questions

- Describe the different types of DM. How common is each and what is the cause of each?
- How is DM diagnosed and treated?
- What is hemoglobin A1C?

Class 11: February 13 ORTHOPEDICS

- arthr(o) joint
- articul joint
- cervic neck
- chondr(o) cartilage
- cost(o) rib
- latero side
- my(o) muscle
- osse(o) bone
- oste(o) bone
- penia deficient
- pod(o) foot
- scope instrument
- scopy examination
- somat(o) body
- spondyl(o) vertebra
- stom mouth
- Fracture
 - A fracture is a break in a bone, usually accompanied by injury to the surrounding tissues.
- Osteoporosis
 - Osteoporosis is a condition in which a progressive decrease in the density of bones weakens the bones, making fractures likely.
- DEXA scan
 - scan used to measure bone density.
- Carpal Tunnel Syndrome
 - Carpal tunnel syndrome is a painful compression of the median nerve as it passes through the wrist.
- Arthritis
 - Inflammation of the joint. Two major forms are rheumatoid arthritis and osteoarthritis

- Ankle Sprain An ankle sprain is an injury to the ligaments (the tough elastic tissue that connects bones to one another) in the ankle.

- Arthroscopy a procedure in which a small (diameter of a pencil) fiber optic scope is inserted into a joint space, allowing the doctor to look inside the joint and to project the image onto a television screen

Potential Essay Questions

- What are the two different types of hip fractures and the two different ways that “hip” fractures can be repaired?
- What is arthritis and what are its major forms?
- What are the major functions of the skeletal system?

Class 12: February 15

DERMATOLOGY

- cry(o) cold
- derm(ato) skin
- epi outer
- erythro red
- steat(o) fat
- stom mouth
- Melanoma Melanoma is a cancer that originates in the pigment-producing cells of the skin (melanocytes).

- Basal Cell Carcinoma Basal cell carcinoma is a cancer that originates in cells of the epidermis.

- Squamous Cell Carcinoma Squamous cell carcinoma is cancer that originates in the squamous cells (keratinocytes)

- Shingles Shingles (herpes zoster) is infection that results from reactivation of the varicella-zoster virus, the virus that causes chickenpox. Shingles causes a painful skin eruption of fluid-filled blisters and sometimes results in chronic pain in the affected area.

- Dermatitis inflammation of the upper layers of the skin, causing itching, blisters, redness, swelling, and often oozing, scabbing, and scaling.
- Pressure sores (aka bedsores, decubitus ulcers, pressure ulcers) are areas of skin damage resulting from a lack of blood flow due to pressure.
- Burns Burns are injuries to tissue that result from heat, electricity, radiation, or chemicals.

Potential Essay Questions

- What is the importance of the skin to our overall health?
- What are bedsores (aka pressure sores or decubitus ulcers) and why are they a really big issue to healthcare managers?
- What are the major forms of skin cancer and what is the major risk factor for getting them?

Class 13: February 20**CENTRAL NERVOUS SYSTEM**

- cephal(o) head
- crani(o) skull
- encephal(o) brain
- neur(o) nerve
- pleg(ia) paralysis
- Stroke
A stroke is a disorder in which the arteries to the brain become blocked or rupture, resulting in death of brain tissue.
- TIA
hour,
Transient Ischemic Attack. An ischemic stroke that last only a brief time (often less than 1 hour, but always less than 24 hours). Mini-stroke
- Dementia
Dementia is a slow, progressive decline in mental function in which memory, thinking, judgment, and the ability to learn are impaired.
- Alzheimer's
Alzheimer's disease is a progressive loss of mental function, characterized by degeneration of brain tissue, including loss of nerve cells and the development of senile plaques and neurofibrillary tangles. Most common form of dementia.
- Seizure
periodic disturbances of the brain's electrical activity, resulting in some degree of temporary brain dysfunction.
- Carotid Endarterectomy
over
The surgeon makes an incision in the neck
the area of the artery that contains the blockage and an incision in the artery. The blockage is removed, and the incisions are closed.
- Epilepsy
seizures that occur repeatedly and have no apparent cause.
- Parkinson's disease
a slowly progressive degenerative disorder of the central nervous system. It is characterized by tremor when muscles are at rest (resting tremor), increased muscle tone (rigidity), slowness of voluntary movements, and difficulty maintaining balance (postural instability)
- Multiple Sclerosis
Multiple sclerosis is a disorder in which

patches of myelin and underlying nerve fibers in the eyes, brain, and spinal cord are damaged or destroyed.

Potential Essay Questions

- What is a TIA and how is it different from a Stroke?
- How do we treat TIAs and Strokes?
- What are the different types of strokes?
- What is Dementia and what is the most common type?

Class 14: February 22

Special Senses

- | | |
|-------------------|---|
| • acou, acu | hear |
| • aur(i) | ear |
| • nas(o) | nose |
| • ocul(o) | eye |
| • Ophthalm(o) | eye |
| • opia | vision |
| • ot(o) | ear |
| • pharyng(o) | throat |
| • rhin(o) | nose |
| • Otitis Media | Ear Infection |
| • Sinusitis | Inflammation of the sinuses. |
| • Cataract | A cataract is a clouding (opacity) of the lens of the eye that causes a progressive, painless loss of vision |
| • Glaucoma | Glaucoma is optic nerve damage, often associated with increased eye pressure, that leads to progressive, irreversible loss of vision. |
| • Ophthalmologist | Physician trained in treating conditions of the eye. Can operate on the eye |
| • Optometrist | Optometrists, also known as <i>doctors of optometry</i> , or <i>ODs</i> , provide most primary vision care. They examine people's eyes to diagnose vision problems and eye diseases, and they test patients' visual acuity, depth and color perception, and ability to focus and coordinate the eyes. |

At the end of the readings you should be able to answer the following questions:

- What is the most common cause of otitis media?
- What is the difference between ophthalmologist and optometrist?
- Glaucoma and cataracts both cause loss of vision, compare and contrast the two diseases.

Class 15: February 27

Review and Catch up. Review of first papers**Class 16: March 1
Exam 2****Class 17: March 6
No Class Spring Break****Class 18: March 8
No Class Spring Break****Class 19: March 13 WOMEN'S HEALTH ISSUES**

- cyst(o) bladder
- gyn woman
- hyster(o) uterus
- lact(o) milk
- mamm(o) breast
- mast(o) breast
- nephr(o) kidney
- oophor(o) ovaries
- pyel(o) kidneys
- ren(o) kidneys
- uria urine
- Hysterectomy Surgical removal of the uterus
- Sterilization Sterilization involves making a person incapable of reproduction.

- Mastectomy Surgical removal of breast
- Epidural Block is almost always used when pain relief is needed. An anesthetic is injected in the lower back—into the space between the spine and the outer layer of tissue covering the spinal cord (epidural space). Alternatively, a catheter is placed in the epidural space, and a local anesthetic (such as bupivacaine) is continuously and slowly given through the catheter. An opioid (such as fentanyl or sufentanil) is often also injected. An epidural injection for labor and delivery does not prevent the woman from pushing. An epidural injection can also be used in cesarean deliveries.

- Lumpectomy a breast-conserving surgery in which only small amount of surrounding normal tissue is removed.

- Menopause permanent end of menstrual periods and fertility.

- Pelvic Inflammatory Disease Infection of the upper female reproductive system.

- Miscarriage
A miscarriage (spontaneous abortion) is the loss of a fetus due to natural causes before 24 weeks of pregnancy.
- Cesarean Section through a
surgical delivery of a baby by incision woman's abdomen and uterus.
- In-vitro Fertilization used
test tube babies or IVF. This technique is used when infertility is due to certain problems with sperm, problems with the fallopian tubes, or abnormal mucus in the cervix and when women have endometriosis, as well as when the cause is unidentified. The technique involves the following:
 - Stimulating the ovaries
 - Retrieving released eggs
 - Fertilizing the eggs
 - Growing the resulting embryos in a laboratory
 - Implanting the embryos in the woman's uterus
- PAP Smear
Papanicolaou smear. Used to screen for cervical cancer. Requires a pelvic exam
- Fibrocystic Breast Disease
Fibrocystic breast disease is characterized by breast pain, cysts, and noncancerous lumpiness.
- HPV
Human Papilloma Virus is the cause of cervical cancer

Possible Essay Questions

- What are the components of a female pelvic exam?
- What is HPV? How is it treated/prevented? Why is it important?
- What is female sterilization? What are the problems with its use?
- What are the different types of breast surgery? Explain what each type does?

Class 20: March 15 MEN'S HEALTH ISSUES

- cyst(o) bladder
- nephr(o) kidney
- pyel(o) kidneys
- ren(o) kidneys
- uria urine
- vas(o) vessel
- vesic(o) bladder
- HIV
infection
Human immunodeficiency virus (HIV)
is a viral infection that progressively destroys certain white blood cells and causes acquired immunodeficiency syndrome (AIDS)
- AIDS
(AIDS)
Acquired immunodeficiency syndrome

- urinary tract infection
 - Kidney stone

 - BPH

 - PSA
 - Circumcision
 - TURP

 - Renal Failure

 - Urologist

 - AV Fistula
- is
- usually surgically created to make long-term access easier for dialysis. In this procedure, typically the radial artery in the forearm is joined with the cephalic vein in the forearm

is the most severe form of HIV infection. HIV infection is considered to be AIDS when at least one serious complicating illness develops or the number (count) of CD4+ lymphocytes decreases substantially.

An infection of the urinary tract
Stones (calculi) that form anywhere in the urinary tract and may cause pain, bleeding, obstruction of the flow of urine, or an infection

Benign prostatic hyperplasia is a noncancerous (benign) enlargement of the prostate gland that can make urination difficult.

Prostate Specific Antigen, a blood test used to help diagnose prostate cancer

surgical removal of the foreskin
transurethral resection of the prostate is a surgical procedure in which a doctor passes an endoscope (a flexible viewing tube) up the urethra. Attached to the endoscope is a surgical instrument that is used to remove part of the prostate.

Kidney (renal) failure is the inability of the kidneys to adequately filter metabolic waste products from the blood

A physician who has specialized expertise regarding problems of the male and female urinary tract and the male reproductive organs.

an arteriovenous fistula is an artificial connection between an artery and a vein that

Potential Essay Questions

- What is circumcision and is it medically necessary? What are the potential benefits?
- What are STDs?
- What is HIV?
- What is AIDS?
- What is Male sterilization? What are its advantages and concerns?
- What is a Kidney Stone and how is it treated?
- What is renal failure?
- How do we treat renal failure?
- What is Testicular cancer?
- How do we screen for Testicular Cancer?

CLASS 21: March 20 DIGESTIVE

- chol(e) gallbladder
- enter(o) intestine
- ectomy remove by cutting
- gastr(o) stomach
- hepat(o) liver
- lapar(o) abdomen
- lip(o) fat
- melan(o) black
- pept digest
- proct(o) anus
- tomy operation by cutting
- cirrhosis Cirrhosis is the destruction of normal liver tissue that leaves nonfunctioning scar tissue surrounding areas of functioning liver tissue.
- Hepatitis Inflammation of the liver from any cause.
- Appendicitis Appendicitis is inflammation and infection of the appendix of the colon
- Colonoscopy A colonoscopy is an internal examination of the colon (large intestine), using an instrument called a colonoscope. The colonoscope is a small camera attached to a flexible tube.
- EGD Esophagogastroduodenoscopy (EGD) is an examination of the lining of the esophagus, stomach, and upper duodenum with a small camera (flexible endoscope) which is inserted down the throat
- Crohn's disease Crohn's disease (regional enteritis, granulomatous ileitis, ileocolitis) is a chronic inflammation of the intestinal wall that may affect any part of the digestive tract.
- Endoscopy Use of a medical instrument to view internal organs
- Laparoscopy Examination of the abdominal cavity using an endoscope
- Diverticulitis Diverticulitis is inflammation or infection of one or more diverticula of the colon.
- Cholecystitis Cholecystitis is inflammation of the gallbladder wall, usually resulting from a gallstone obstructing the cystic duct.

Potential Essay Questions

- What are the major components of the digestive system, and what is the function of each?
- What is endoscopy and how is it used (EGD and Colonoscopy)?
- What is laparoscopy and what is it used for?
- What is an occult blood test and what is it used for?
- What is gastritis and how is it treated?

- What is a peptic ulcer, and how is it diagnosed and treated?
- What is GE reflux and how is it treated?
- What is inflammatory bowel disease, and what are the major types?
- What is antibiotic associated diarrhea and why is it important?
- Describe what are diverticulosis and diverticulitis?
- What is an ileus and how is that different from a mechanical bowel obstruction?
- What is appendicitis and how is it treated?
- What is gallbladder disease and how is it treated (gallstones and cholecystitis)?
- What is hepatitis and what are the major forms?
- Which forms of hepatitis have vaccines?
- Why do we screen for colon cancer, and why don't we start until age 50 with colonoscopy?

CLASS 22: March 22 RADIOLOGY, SURGERY

- Obesity The accumulation of excessive body fat. Usually defined as a BMI of greater than or equal to 30.
- Overweight The accumulation of excessive body fat. Usually defined as a BMI of between 25 and 29.9.
- BMI Body Mass Index. Weight (in kg) divided by Height (in meters) squared.
- Bariatric Surgery Surgery to alter the stomach, intestines, or both to produce weight loss.
- Gastric Banding A band (sometimes called a lap band) is placed at the upper end of the stomach to divide the stomach into a small upper part and a larger lower part.
- Gastric Bypass The part of the stomach next to the esophagus is detached from the rest, creating a small pouch. As a result, the amount of food that can be eaten at one time is drastically reduced. A section of small intestine is used to connect the pouch to a lower part of the small intestine.
- Computed Tomography an x-ray source and x-ray detector rotate around a person. In modern scanners, the x-ray detector usually has 4 to 64 or more rows of sensors that record the x-rays that pass through the body.
- Magnetic Resonance Imaging a strong magnetic field and very high frequency radio waves are used to produce highly detailed images. MRI does not use x-rays and is usually very safe.
- Plain Xrays An x-ray beam is passed through the part of the body to be evaluated. Different tissues block different amounts of the x-rays, depending on the tissue's density. The x-rays that pass through are recorded on a film or radiation

- Radionuclide scanning
- Ultrasonography
- body's
- PACS

detector plate, producing an image that shows the different levels of tissue density. radionuclides are used to produce images. A radionuclide is an unstable atom that becomes more stable by releasing energy as radiation.

Ultrasonography uses high-frequency sound (ultrasound) waves to produce images of internal organs and other tissues. A device called a transducer converts electrical current into sound waves, which are sent into the tissues

Picture Archiving and Communication System. These are computers or networks dedicated to the storage, retrieval, distribution and presentation of diagnostic medical images.

Potential Essay Questions

- What are the different ways we can image inside of the human body?
- What are the surgical treatments for obesity?
- What is BMI and how is it calculated?
- What is a PACS system and how is it used?

Class 23: March 27

Exam 3

Class 24: March 29

No class Easter Break

CLASS 26: April 3 PEDIATRICS

- circum around
- ped(o) child
- peri around
- pyr fever
- SIDS Sudden infant death syndrome (SIDS) is the sudden, unexpected death of a seemingly healthy infant during sleep, in whom a thorough postmortem examination does not show a cause.
- Autism Spectrum Disorder Autism is a neurodevelopmental disorder characterized by impaired social interaction and communication, repetitive and stereotyped patterns of behavior, and uneven intellectual development often with mental retardation.
- Cerebral Palsy Cerebral palsy refers to a group of symptoms including poor muscle control, spasticity, paralysis, and other neurologic

- Chickenpox
problems resulting from brain injury before, during, or shortly after birth.
a highly contagious infection with the varicella-zoster virus that produces a characteristic itchy rash, consisting of small, raised, blistered or crusted spots.
- New Born Screening
Newborn screening is the practice of testing every newborn for certain harmful or potentially fatal disorders that aren't otherwise apparent at birth. Many of these are metabolic disorders, often called "inborn errors of metabolism," which interfere with the body's use of nutrients to maintain healthy tissues and produce energy.
- Immunization
The process of giving a vaccine to induce immunity from a disease.
- Vaccine
Vaccines are preparations that contain either noninfectious fragments of bacteria or viruses or whole forms of these organisms that have been weakened so that they do not cause disease. Giving a vaccine (usually by injection) stimulates the body's immune system to defend against that disease.

Potential Essay Questions

- When are Preventive Health care visits for healthy infants?
- What is the purpose of the preventive health care visits for infants?
- What is the new DTaP vaccine and why was it developed?
- What has changed in polio vaccination and why?
- What is meningitis and how can it be prevented?
- What is chickenpox and why did we develop a vaccine for a disease that is usually has no major problems?

Class 25: April 5 **No Class**

CLASS 26: April 10 PHARMACOLOGY

- Pharmaco drug
- FDA Food and Drug Administration.
- DEA Drug Enforcement Agency. Regulates controlled substances.
- antipyretic a medication used to treat fever
- Intravenous administration something that is given to the patient through a catheter inserted into a vein.
- Intramuscular administration something that is given to the patient by being injected into the muscle (common for vaccines).
- Pharmacology Field of medicine that specializes in the study of drugs, their sources, appearance, chemistry, actions, and uses

- Pharmacist
Pharmacists is an individual who is licensed to distribute drugs prescribed by physicians and other health practitioners and provide information to patients about medications and their use.
- Toxicology
the science that studies the harmful effects of drugs, environmental contaminants, and naturally occurring substances found in food, water, air and soil
- Hospital formulary
Lists all drugs stocked in the hospital pharmacy
- PDR
Physicians Desk Reference. Published yearly by Medical Economics Company. Manufacturers pay to list information about their products in the PDR. Same information that appears on Package Inserts

- Sublingual administration
A medication is given under the tongue
- Transdermal administration
A medication is absorbed through the skin
- Generic name
The official name given to a drug when it is first manufactured.

- Trade name
The name given to a drug for marketing purposes. It can only be utilized the company that has the patent on the drug.

Possible Essay Questions

- What are the different routes of administration of drugs?
- How are most drugs eliminated from the body?
- What is a generic drug and what is bioequivalence?
- What is naturopathy and homeopathy?
- What is the problem with herbal therapies?

CLASS 27: April 12 CANCER

- hist(o) tissue
- myel(o) marrow
- oma tumor
- onc(o) tumor
- path disease
- phag(o) destroy
- Neoplasm A tumor
- Malignant Cancerous
- Benign Noncancerous
- Recurrence Cancerous cells return after treatment, either in the primary location or as metastases (spread).
- Metastasis: Cancerous cells that have spread to a completely new location

- Carcinogen
An agent that causes cancer
- Chemotherapy
the use of drugs to destroy cancer cells
- Radiation Therapy
Radiation is a beam or field of intense energy focused on a certain area or organ of the body. It can be generated by a radioactive substance (such as cobalt) or with an atomic particle (linear) accelerator.
- Gamma Knife
A type of radiation therapy that limits radiation to a specific area of the brain
- Cancer
a group of cells (usually derived from a single cell) that has lost its normal control mechanisms and thus has unregulated growth

Possible Essay Questions

- What is cancer and how does it develop?
- What are the different types of cancers?
- What are the risk factors for cancer?
- What are the most common types of cancer in men and women, and what is the number one cause of cancer death in the USA?
- What are some of the common symptoms of a person with cancer?
- How can people help prevent themselves from getting cancer?
- What are the major forms of treatment for cancer?

CLASS 28: April 17 MENTAL HEALTH

- phob(ia)
fear
- psych(o)
mind
- tox(i)
poison
- Anxiety Disorders
A state of distressing chronic but fluctuating nervousness that is inappropriately severe for the person's circumstances.
- PTSD
Posttraumatic stress disorder (PTSD) is characterized by recurrent, intrusive recollections of an overwhelming traumatic event.
- Mood disorders
emotional
Mental health disorders involving disturbances consisting of long periods of excessive sadness (depression) or excessive joyousness or elation (mania). Depression and mania represent the two extremes, or poles, of mood disorders.
- Suicidal Behavior
attempted
Suicidal behavior includes three types of self-destructive acts: completed suicide, attempted suicide, and suicide gestures. Thoughts and plans about suicide are called suicide ideation.
- Anorexia Nervosa
of
Disorder characterized by relentless pursuit of thinness, a distorted body image, an extreme

- fear
- Schizophrenia characterized firmly thinking, affect), and
 - Bulimia Nervosa amounts of the
 - Psychiatrist
 - Psychologist
 - Psychiatric social worker
 - DSM-IV
- of obesity, refusal to maintain a minimally normal body weight.
Schizophrenia is a mental disorder by loss of contact with reality (psychosis), hallucinations (usually, hearing voices), held false beliefs (delusions), abnormal a restricted range of emotions (flattened diminished motivation, and disturbed work social functioning.
Repeated rapid consumption of large food (bingeing), followed by attempts to rid body of the excess food consumed (purging).
Medical doctor with 4 years of psychiatric training after graduation from medical school. Can prescribe drugs and admit people to the hospital. Some practice psychotherapy, some only prescribe drugs, and many do both.
Professional who has a doctorate but not a medical degree. Many have postdoctoral training, and most are trained to administer psychological tests that are helpful in diagnosis. May conduct psychotherapy but cannot perform physical examinations, prescribe drugs, or admit people to the hospital.
A professional with specialized training in certain aspects of psychotherapy, such as family/marital therapy or individual psychotherapy. Often trained to interface with the social service systems in the state. May have a master's degree, but some have doctorates as well. Cannot perform physical examinations or prescribe drugs
Diagnostic and Statistical Manual of Mental Disorders (fourth edition) provides a classification system for mental illnesses.

At the end of the readings, you should be able to answer the following questions:

- What is the difference between a psychiatrist, a psychologist, and a psychiatric social worker?
- What is deinstitutionalization and why is it a problem?
- What is electroconvulsive therapy?

CLASS 29: April 19

Review Session

Class 30: April 24

Exam 4

Grammar Basics
Edmond A Hooker, MD, DrPH

Sentence

The basic unit of expression is a sentence. It should be able to stand alone, and it must have appropriate punctuation.

The two basic parts of a sentence are the subject and the predicate. The subject is the person, place or thing that we are talking about. The predicate contains the verb and must be the action that the subject is performing.

An example of a simple sentence is:

She ran.

She is the subject, and *ran* is the predicate.

A more complex sentence is:

He graduated from the Master's of Health Administration Program.

"He" is the subject, and the predicate is *"graduated from the Master's of Health Administration Program."*

Compound Sentences

A compound sentence is one that combines two independent clauses (two sentences). In order to do this, you must use appropriate punctuation.

An example of a compound sentence is:

Bill went to class, and Jane stopped by the library.

Both *"Bill went to class"* and *"Jane stopped by the library"* are independent clauses.

They are joined using a comma and a conjunction (and). Now, if Bill was doing both actions, we could write the sentence in this manner:

Bill went to class and stopped by the library.

In this case, Bill is doing both actions and is the subject of both predicates.

You can also join two independent clauses using a semicolon:

Bill got an A on his accounting final; however, he got a B on his introduction to health services final.

Both *"Bill got an A on his accounting final"* and *"he got a B on his introduction to health services final"* are independent clauses.

Common Problems

Comma Splice Error

You cannot simply join two independent clauses (an independent clause contains a subject and a predicate and can stand alone) with a comma.

An example of a comma splice error is:

Jane went to the library, bill went to the gym.

We have joined these two independent clauses, and this is now a run-on sentence.

This comma splice problem can be easily fixed by doing one of a number of things:

- a. Make two sentences
Jane went to the library. Bill went to the gym.
- b. Add a coordinating conjunction
Jane went to the library, and bill went to the gym.

If the two clauses are related, often the comma splice error can be fixed by using a preposition or a semicolon

An example of a comma splice error with two related independent clauses

Eddie likes medicine, it is interesting

We have joined these two independent clauses (although they are related) and this is now a run-on sentence.

This problem can be fixed with a number of solutions:

- a. Make two sentences
Eddie likes medicine. It is interesting.
- b. Add a preposition
Eddie likes medicine because it is interesting.
- c. Begin the sentence with a preposition
Because it is very interesting, Eddie likes medicine.
- d. Join the sentences using a semicolon (without a comma)
Eddie likes medicine; it is interesting.

Run-on Sentences

You cannot simply put two independent clauses together without any punctuation

An example of a run-on sentence is:

Tom thought that the book was good Bill thought that the book was boring.

Both “*Tom thought that the book was good*” and “*Bill thought that the book was boring*” are independent clauses.

If you have two independent clauses in a run-on sentence, you can fix this using a number of solutions.

- a. Make two sentences
Tom thought that the book was good. Bill thought that the book was boring.
- b. Add punctuation and a coordinating conjunction
Tom thought that the book was good, and Bill thought that the book was boring.

Incorrect use of a modifying clause at the beginning of a sentence

When you start a sentence with a modifying clause, you must set it off with a comma.

An example of an introductory clause not set off with a comma is:

In the early morning the students are not completely awake.

This is a run-on sentence because of the lack of punctuation.

If you have a modifying clause (*In the early morning*), you can fix the problem in a number of ways:

- a. Set off the modifying clause with a comma
In the early morning, the students are not completely awake.
- b. Move the modifying clause to the appropriate place
The students are not completely awake in the early morning.

Inappropriate use of a modifying clause at the end of a sentence

When you end a sentence with a modifying clause, you must either use “, *which*” or *that*. An example of incorrect usage of a modifying clause at the end of the sentence is:

She was in a brand new car which got very poor gas mileage.

You can correct this in two ways:

- a. Use a comma before which

She was in a brand new car, which got very poor gas mileage.

- b. Use *that* instead of *which*

She was in a brand new car that got very poor gas mileage.

Beginning a sentence with AND or BUT

Although some authors will claim that you can begin a sentence with AND or BUT, it is not acceptable to most readers. Do not begin a sentence using AND or BUT. It is considered very informal, and your writing in business is formal.

Spelling Problems

There is absolutely no excuse for misspelled words in any paper. The word processing programs available today will flag most misspelled words. However they will not find them all. Common problems are using “there” when you meant to use “their.” Both words are correct and the word processing program often will not identify the error. After finishing a paper, all students must carefully read over what they wrote.

Punctuation mistakes

Although there are a number of problems that can occur with misuse of punctuation, the most common error is failure to put the punctuation inside of a quotation mark.

Unfortunately, the word processing programs do not recognize this error.

An example of incorrect punctuation using quotation marks:

Jane said “are you awake”.

The correct punctuation is:

Jane said “are you awake.”

FAILING TO SPELL OUT ABBREVIATIONS THE FIRST TIME

If you are going to use abbreviations, you must spell them out the first time that you use them.

Refusing to see a patient who presents to the emergency department is an EMTALA violation.

EMTALA must be spelled out the first time.

Refusing to see a patient who presents to the emergency department is an Emergency Medical Treatment and Active Labor Act (EMTALA) violation.

When typing a paper in Word, it is also a really good idea to use “Spelling and Grammar” tab under tools. Click on it after you finish your paper and go back through it a second time.

Example of a weekly reflection on a medical news article
MAKE SURE THAT YOU SAVE THE FILE as Last name date
e.g. Hooker 8-27

YOUR NAME

Date

HESA 561- Dr. Hooker

“A Single Test to Detect Many Winter Ailments”

The Food and Drug Administration (FDA) approved the xTAG respiratory panel this year, which is currently the most comprehensive virus panel. Luminex, Corp manufactures the test. It screens for respiratory syncytial virus (RSV), several types of influenza, three types of parainfluenza, adenovirus, and rhinovirus (which causes the common cold). The manufacturer reports that these viruses will account for 85% of viruses affecting people in the United States this year. The accuracy for detection of the viruses varies from 78% to 100% depending on the virus. There are only a few false positives. For example, the test accurately detects RSV 100% of the time, with false positives occurring only 2% of the time.

A physician swabs the nose or throat of the patient. The swab is then sent to a lab. It is mainly intended for use in hospitals and emergency rooms, but can be used by doctors outside of these settings if sent to the appropriate lab. Results take approximately 6 to 7 hours. Processing time may be longer depending on the availability of lab staff. For this reason, emergency room use may impractical. Additionally, the test costs between \$300 and \$400, but is often covered by insurance.

This test is important because it can help prevent misdiagnosis and thus inappropriate treatment. It can prevent overuse of antibiotics because doctors may misdiagnose a viral illness as a bacterial infection. Conversely, it can increase appropriate use of antivirals. In general, the xTAG test allows for more accurate diagnosis and treatment of patients with common viral illnesses.

As a hospital administrator, one would have to decide whether a test like this should be used in the emergency room and throughout the hospital. Clearly, there is a benefit to having one test that covers the majority of viral infections. However, there is always a chance of a false positive. Cost is another factor to consider. In addition, the processing time is longer than individual tests. Does the wait time outweigh the benefit of performing one comprehensive test? These are all important variables to consider when choosing to use a diagnostic test such as this.

Johannes, L. (2008, November 4) A Single Test May Detect Many Winter Ailments. Wall Street Journal. November 4, 2008. Retrieved from

<http://online.wsj.com/article/SB122574959487594607.html>

Grading rubric for papers				
	Improvement Needed (4 points)	Competent (7 points)	Advanced (10 points)	Total points (weight of area x grade)
Organization 20 percent	The paper is very disorganized and hard to read	The paper is easy to read but does not follow the prompt completely	The paper completely covers the topic and is well organized and easy to read.	
Formatting 10 percent	Failure to put name on paper or Failure to submit paper in Word format or References not properly cited		Paper named correctly Last name reflection # Paper has name of student at top of page Paper has a proper references	
Length 10 percent	Reflection is less than the required length. (Not including title or reference)	Reflection is more than the maximum length (Not including title or reference)	Reflection is the correct length (Not including title or reference)	
Personal reflection or persuasive argument 20 percent	Failure to make a persuasive argument or to give a personal reflection.		Student examines the issues and either gives a personal reflection or makes a persuasive argument.	
Grammar, Punctuation, and Spelling 40 percent	Grammar and/or typographical errors are present. Failed to utilize double spacing, or used multiple run-on sentences	Overall grammar is good and no typographical errors, but there is an occasional grammatical mistake.	All writing is grammatically correct and contains no punctuation errors. No run-on sentences. Writing is crisp and concise.	