

Research Paper and Presentation Project
BI-374, Spring '06, Dr. C. S. Tritt

Write a research paper on a disease or condition that effects one or more of the organ systems I plan to cover in this course (microcirculation, lymphatic, blood, respiratory, renal, digestive (including liver and pancreas), endocrine or the special senses). Stress the physiologic basis of the disease and its treatment. The papers should be 5 to 10 double-spaced, typed pages long with figures. Direct the paper to other biomedical engineering students. The paper should reference 3 or more **reasonably current journal articles**. I suggest you search the following literature databases for you paper: Medline PubMed, EI Compendex, Applied Science and Technology, CSA Life Science Collection. You may find it helpful to initially limit your search review papers in English. All of these databases can be accessed from any computer on the MSOE network by going to <http://www.msoe.edu/library>.

Suggested Outline:

Introduction (name of disease or condition, its history, its prevalence, typical outcome, ethical issues, psychological aspects, etc.)
Physiological Basis (of the disease or condition)
Current Treatments and Clinical Issues (covering physiological basis of these if possible)
Promising Future Treatments

An alternate outline might be acceptable if your topic warrants it. Check with the instructor.

Key dates:	3/7	Project assigned. Start selecting topics.
	3/13	Topics selected.
	4/4	Preliminary list of references due.
	4/18	Optional drafts due.
	5/9 & 5/16	Paper presentations.
	5/18	Papers due.

Topics are available on a first-come, first served basis. You may also e-mail your topic selections to me at tritt@msoe.edu.

Suggested Topics —

Any topic related to an organ system we study and any recent FDA notice.	Cystic fibrosis
Any specific anemia	Tuberculosis
Any specific leukemia	Emphysema (a smoker should do this one)
Any specific hepatitis	Adult Respiratory Distress Syndrome (ARDS)
Any other specific liver disease	Pulmonary embolism
Hemophilia	Pulmonary edema
Infections mononucleosis	Pneumothorax and hemothorax
Asthma	Diabetes insipidus
Bronchitis	Diabetes mellitus, Type I

Diabetes mellitus, Type II	(SARS)
Urinary tract infections (UTI)	Pancreatitis
Glomerulonephritis	Lactose intolerance
Polycystic kidney disease (PKD)	Hemorrhoids and diverticulitis
Urinary incontinence and retention	Pituitary dwarfism, gigantism and acromegaly
Renal calculi (kidney stones)	Grave's disease (hyperthyroidism)
End Stage Renal Failure (ESRF)	Cirrhosis of the liver
Any other specific kidney diseases	Aldosteronism
Esophageal acid reflux	Addison's disease (hyposecretion of glucocorticoids)
Gastric or Duodenal Ulcers	Cushing's syndrome (hypersecretion of glucocorticoids)
Colorectal cancer	Pheochromocytomas (hypersecretion of adrenal medullary hormones)
Peritonitis	Any specific type of infertility and its treatment
Pyloric stenosis	
Cholelithiasis (gallstones)	
Colitis	
Avian Influenza ("Bird Flu")	
Severe Acute Respiratory Syndrome	

Any other topic you choose with the instructor's approval.

Some Comments and Suggestions

Papers will be compared to those from previous years and excessive similarity penalized.

Be very careful regarding inadvertent (or intentional) plagiarism. Don't copy and paste text from sources. Don't directly copy more than a sentence without putting them in quotes. Don't directly copy more than a few sentences in your entire paper.

Remember all figures and tables should be numbered and have captions. Most papers should have at least a few figures or tables. References should be in a consistent citation style (I like *Author(s). Title. Journal Volume(Issue):Page(s). Date.*) and numbered.

If you turn in a draft, return it to me with your final paper.

Remember to get and read complete papers (articles) you cite as references. Don't rely on the online abstracts. If you can't get the complete article, don't cite the reference.

Most papers should reference one or more general, textbook sources. Use these references to provide the background and context for your discussion of individual journal papers. Don't use too many (more than 3 or 4) references to web pages.