**Course:** BI 358 Investigations in Medical Physiology, CRN 21236, 04 cr, Lecture: 8:30-9:50 TR 16 Pacific Hall (PAC) + Discussion: CRN 21237 10:00-11:50 T or CRN 21238 12:00-13:50 T, 130 Huestis (HUE), Winter 2010.

**Instructor:** V. Pat Lombardi
**Office, Phone, E-Mail:** 116 HUE, 346-4536, lombardi@uoregon.edu
**Office Hr:** M, 10:00-11:00 and by appointment.

**Discussion Coordinator:** Jon Runyeon
**Office, Phone, E-Mail:** TBA, 346-4536 (message), jrunyeon@uoregon.edu
**Office Hr, Location:** TBA, 130 HUE/TBA.


*BI 358 Investigations in Medical Physiology Discussion/Lecture Notebook (DLN), 2010.* [Required]


See Course Reserve List [http://libweb.uoregon.edu/](http://libweb.uoregon.edu/) for additional excellent references. NB: Click on green tab Course Reserves, then type in Lombardi as Instructor.

**Tentative Outline:**


**Jan 5 (T) Discussions 1 & 2:** Introduction & Resources: Personal Information Cards; Guidelines for Research Paper & Presentation; Addiction Medicine Primer: Discussion + Mini-group Presentations on Common Drugs of Addiction: Alcohol, Cocaine, Heroin, Marijuana, Methamphetamine, Nicotine. **Readings:** DLN pp iv-x, 1-1, 1-2, 2-1 thru 2-66. **Additional Assignment:** Resources & Computer Search, Focus on Topics of Personal Interest to create paper outline (130 HUE, then BI Microcomputer Lab 33 KLA during open hours).

**Jan 7 (R) Lecture 2:** Autonomic Nervous System: Sympathetic vs Parasympathetic: Neurotransmitters, Receptors, Actions; Fight-or-Flight. Synapses & Introduction to Addiction Medicine. **Readings:** G&H ch 45 pp 559-64; ch 58 pp 728-38; ch 60 pp 748-60.


**Jan 12 (T) Discussion 3:** Peer Review of Outlines. 4 Copies of Brief Outline Due + e-mail copy of outline to lombardi@uoregon.edu prior to Discussion. **Quiz 1** covers Lectures 1, 2 & 3. Brief topic explanations within small groups. Peer review of outlines + feedback by e-mail. **Readings:** DLN pp 3-1, 3-2.

**Jan 14 (R) Lecture 4:** Spinal Anatomy & Physiology, Somatosensory Cortex, Dermatomes, Perception of Pain. LS1 ch 5 (Spinal Cord section); G&H ch 46 pp 572-8; ch 47 pp 585-97; ch 48 pp 598-609.

**Jan 19 (T) Lecture 5: Guest Lecture Series-Clinical:** Donna M. Morgan, MD, Pain Consultants of Oregon, Eugene, OR. *Pain Management.* **Readings:** DLN pp C-1 thru C-24.
Jan 19 (T)  **Discussion 4: Quiz 2**-covers Lectures 4 & 5. Nutrition & Disease Prevention. **NB:** Please complete p 4-8 prior to this Discussion by recording at least one full day of your diet so that you have personal data to conduct the computer nutritional analyses. **Readings:** DLN pp 4-1 thru 4-18.

Jan 21 (R)  **Lecture 6:** Gastrointestinal Anatomy, Physiology & Digestion. **Readings:** Highlights of G&H ch 62, 63, 64 & 65, pp 771-818.

Jan 26 (T)  **Lecture 7:** Nutrition & Disease Prevention. **Readings:** G&H ch 71 pp 865-80.


Jan 28 (R)  **Lecture 8:** Blood + Immunology I: Blood Cells & Immunity, Overview of Innate vs. Acquired/Adaptive (Nonspecific vs. Specific) Immunity. Immunology II: Immunity & Allergy + Evolution of the immune system. How breast milk protects newborns. **Readings:** G&H ch 32, 33 & 34, pp 419-50; + e-mailed article link.

Feb 2 (T)  **Lecture 9:** Guest Lecture Series-Clinical: Kraig W. Jacobson, MD, Allergy & Asthma Associates, Eugene, OR. **Immunology, Asthma & Allergy. Readings:** DLN pp D-1 thru D-15.

Feb 2 (T)  **Discussion 6:** Peer Review of Papers. 4 Copies of Paper Draft Due to Section Members + e-mail copy of Paper Draft to irunyeon@uoregon.edu prior to Discussion. **Quiz 4**-covers Lectures 8 & 9. Small Group Discussions + Feedback on papers by way of follow-up e-mails. **Reading:** DLN p 6-1.

Feb 4 (R)  **Lecture 10:** Cardiovascular Physiology: Heart & Vessels Anatomy & Physiology, General Circulation, Coronary Circulation, Atherosclerosis, CABG & PTCA, Hypertension. **Readings:** G&H ch 9 pp 103-15; ch 14 pp 161-4; ch 15 pp 175-6; ch 19 pp 220-3; ch 21 pp 249-57; ch 68 pp 847-51; DLN pp E-1 thru E-17.

Feb 9 (T)  **Lecture 11:** I. Cardiovascular Physiology (continued). II. Introduction to Endocrinology, Pituitary Hormones & Control by the Hypothalamus. **Readings:** G&H ch 74 & 75 pp 905-30; DLN p F-1.

Feb 9 (T)  **Discussion 7:** Class Presentations I.

Feb 11 (R)  **Lecture 12:** Guest Lecture Series-Clinical: Richard C. Padgett, MD, Cardiology, Oregon Cardiology Associates, Eugene, OR. **Clinical Cardiology, Case Studies & Recent Advances.** DLN pp E-18 thru E-34.

Feb 16 (T)  **Lecture 13:** I. Insulin, Glucagon & Diabetes Mellitus; Thyroid Metabolic Hormones. II. Reproductive Physiology Overview, Ovarian & Menstrual Cycle, Birth Control Techniques, Introduction to Infertility. **Readings:** G&H ch 78 pp 961-77; ch 76 pp 931-43; ch 81 pp 1011-26; ch 80 pp 996-1010.

Feb 16 (T)  **Discussion 8: Quiz 5**-Covers Lectures 10, 11 (CV Physiology) & 12. Feedback on Papers (continued). **Additional Assignment:** Endocrine case histories to prepare for Dr. Cirullo. **Readings:** DLN pp 8-1 thru 8-8.

Feb 18 (R)  **Lecture 14:** Guest Lecture Series-Clinical: Ron Cirullo, MD, PhD, Internal Medicine, Endocrinology, Diabetes Mellitus & Thyroid Disorders, PeaceHealth Medical, Eugene, OR. **Endocrinology & Clinical Case Presentations. Readings:** DLN pp F-2 thru F-18.

Feb 23 (T)  **Lecture 15:** Guest Lecture Series-Clinical: Paul F. Kaplan, MD, OHSU, U of O Student Health Center & Department of Human Physiology, Eugene, OR. **Infertility: Causes, Treatments & Current Research. Readings:** DLN pp G-1 thru G-12.

Feb 23 (T)  **Discussion 9:** Class Presentations II.

Mar 2 (T) **Lecture 17: Guest Lecture Series-Clinical:** Pilar Bradshaw, MD, PeaceHealth Medical Group, Eugene, OR. Pediatrics & Clinical Case Presentations. **Readings:** DLN pp H-1 thru H-6.

Mar 2 (T) **Discussion 10: Class Presentations III.**

Mar 4 (R) **Lecture 18: Quiz 7**-covers Lectures 16, 17 (16 PAC). Break. Thoughts on applying to graduate schools in medicine & allied health. Final comments by Pat.

Mar 9 (T) **Lecture 19:** Introduction to Kidney Function. Urine Formation by the Kidneys. **Readings:** G&H ch 26 pp 307-26; ch 27 pp 327-47.

Mar 9 (T) **Discussion 11: Class Presentations IV.**


Mar 16 (T) **Final Research Paper Due** no later than 5:00 pm in Pat Lombardi’s box in Main Biology Office (77 KLA).

**Grading:**
- Attendance & Participation, Feedback on Guest Lecturers (25%)
- Quizzes (25%)
- Class Presentation (25%)
- Research Paper (25%)