

Human Health and Disease: A Clinical Approach Section D

Fall 2009



**Instructors: Jens Rasmussen and
Johannes Boyen**

DIS DANISH INSTITUTE
FOR STUDY ABROAD

Human Health and Disease: A Clinical Approach, Section D

Instructors



Jens Rasmussen

M.D. (University of Copenhagen 1999). Consultant of Department of Internal Medicine, Copenhagen University hospital at Amager since March 2008. Specialized in family medicine in 2007. Clinical instructor and tutor in internal medicine and cardiology, Faculty of Health Sciences, University of Copenhagen 2003-2004

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Johannes Boyen

M.D. (University of Copenhagen 2008). Employed at Copenhagen University hospital Amager since April 2008. Currently working in general practice, Amager.

Johannesboyen@gmail.com



Mette Dorthea Schlichtkrull Wiese (course assistant)

Currently a Medical Candidate at the University of Copenhagen. Completed Bachelor's Degree in 2008 from Copenhagen University with a focus on type 2 diabetes.

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Course Objectives

The objective of the course is to introduce students to the most important human diseases, their diagnosis and treatment, and to clinical working methods of physicians as practiced at a University hospital in Copenhagen (Amager Hospital).

Upon completion of this course, students will:

1. Be able to write a structured medical report
2. Know the rationale for choice of tests and treatments in clinical practice
3. Acquire basic manual skills (suture, CPR, IV)
4. Obtain knowledge of human anatomy, physiology, and scientific context
5. See medical practice in a social, international, and scientific context
6. Understand the epidemiology of major diseases in both the industrialized world and the developing world.

Content

The clinical approach of the course implies studying symptoms, signs, diagnostic methods and treatment of the most important human diseases, writing patient case reviews based upon medical records, and patient interviews, visiting various clinical and diagnostic hospital departments, and performing physical examinations on phantoms or other students. This course does not include physiology and anatomy, but it is essential for understanding and therefore considered 'basic reading.'

The course, however, does not provide regular medical training corresponding to that of medical students and does not include shadowing doctors or physical examination of patients. Patient demonstrations are included in some, but not all, lectures.

Course Schedule

Conferenceroom:

Medicinsk daghospital, Entrance 3, 2nd floor, Amager Hospital, Italiensvej 1, 2300 Copenhagen S

Meeting time:

Tuesdays and Fridays **15:00-17:00 pm unless otherwise noted.**

Prerequisites

At least one year of biology and one year of chemistry at university level. The course is oriented towards serious students with a documented academic interest in medicine.

Evaluation

Students will be evaluated based on participation, two short-answer tests, four written clinical case reviews, three small tests and final examination.

Tests (2 at 10%)	20%
Patient Cases (clinical and theoretical)	30%
Final examination	30%
Study Tour Assignment	10%
Participation	10%

Participation covers following areas:

1. Attendance
2. Level of preparation and ability to answer questions asked in class
3. Involvement in class and group discussions
4. Level of individual research and contribution to discussions
5. Long study tour written report.

Short Schedule:

Tests

- Tuesday, September 29
- Tuesday, November 24

Clinical Case Reviews (To be described in class)

- Friday, September 25
- Tuesday, October 27

Theoretical Case Reviews (To be described in class)

- Friday, September 29
- Tuesday, November 17

Clinical Exercises

- Friday, September 25
- Friday, November 20

Study tour assignment: due Wednesday, October 20th at 18:00-19:00 Vestergade 10-A32

Important information

- **It is mandatory to attend classes in which clinical case reviews are presented. Missing a class would result in a 'fail' in that paper.**

Practical Information

Medical Practice and Policy faculty and staff have put many hours into selecting and organizing the readings for this course. Please make sure to read all the material assigned; the reading material has been carefully chosen and all of it is pertinent to your success in human Health and Disease: A Clinical Approach. You have an obligation to your fellow classmates and yourself to come prepared to class. Lectures will not cover all of the readings, however, you are still responsible for the information. If you have questions or need clarification about a reading or a lecture material do not hesitate to speak up and/or contact the professors for this course have no office hours, as such, please feel free to set up appointments via email. The professors' emails have been provided; please feel free to email them, Mette at mette4@hotmail.com or Jackie Eagan at je@dis.dk to set up an appointment or simply ask a question.

Tests and Final

There will be a total of 2 tests throughout the semester. These tests will consist of a mix of short answer questions and essay questions. Tests may be given at the beginning of class or at the end. If the latter, the material covered in lecture that day may be on the test; so, make sure to pay close attention to the information discussed in lecture that day. Tests in class will generally last a maximum of 30 minutes depending on the amount of information covered. The final for this course will be cumulative and will be written in the same manner as tests. The final will be two hours in duration and held at DIS.

Case Reviews

There will be two different types of clinical cases in this Human Health and Disease course. The first will be the **Clinical Case Reviews** (aka Patient Cases). During the semester, each student will be presented with two different real patients and everyone will write up their own case history about the signs, symptoms, ailments and treatments for the specific patients that are introduced to. There will be a sign up sheet available on which you must sign up for two out of four scheduled clinical case reviews. This way you are able to choose a day in which you may not be as busy or pushed for time to get details about the patient. More details will be given on this activity as the time approaches for the first Clinical Case Review.

The other activity is the **Theoretical Case Review (TCR)**. While the Clinical Case Reviews could be any and all types of diseases (depending on the patients available and his or her willingness to participate), the Theoretical Cases are specialized to the concentration that the class is working on during that time, i.e. the disease will relate to the immune system if that is the topic that has been discussed and will be discussed during the day of presentation.

During the first class you will be randomly assigned to a TCR Review group (A through E). All of the TCRs can be found at the back of the syllabus, it is your responsibility to be prepared to present

the TCR to which you are assigned. The group that corresponds to the case will then thoroughly research the patient and his/her purposed disease, while the rest of the class, at least thinks about possible diagnosis, and treatment. For example, group B will research the theoretical case B and then present their findings to the class on a specific day. As mentioned before, the type of ailment in the Theoretical Case Review will relate to the concentration in the course at the time of presentation (cardiovascular, respiratory, central nervous, and within paediatrics).

In conclusion, each group will research, in depth, one ailment or series of related ailments that can affect a certain system and, in their group, present the case review for that patient to your fellow classmates. This allows you to understand and apply the major themes you learn about in each body system to real-life practices (even though they are in theory). Every group will present once.

Study Tour

Short Tour: Western Denmark (Århus & Aalborg) September 10th-12th

Objectives:

- To experience various ways of practicing medicine from the hospital to general practice
- To learn about the pros and cons of the increased privatization of the Danish health care system
- To see the Danish health care system at work
- To experience cultural landmarks distinct to Denmark

Long tour: Stockholm-Tallinn, October 4th-10th

Objectives:

- To gain perspective on European healthcare outside of Denmark
- To experience different aspects of the medical profession
- To observe patient/doctor interaction with elderly patients
- To obtain a broader knowledge base of medical practice
- To explore the evolution of medical practice throughout history

Study Tour Assignment:

You will get into groups of 2-3 people, with whom you will give a presentation in which you reflect upon the academic visits on both the short and long study tours. A more in-depth description will be provided closer to the short study tour. The study tour assignment presentation is **due Wednesday, October 20th at 18:00** at the Study Tour Wrap-Up.

Travel break: October 31th-November 15th

Required Readings

Reading assignments are listed below as part of the course content. They can be found in the textbook, reading compendium, or posted on forum. The reading compendium is yours to keep and can be highlighted.

Textbooks:

- Hole JW: Essentials of Human Anatomy & Physiology, 9th Edition.

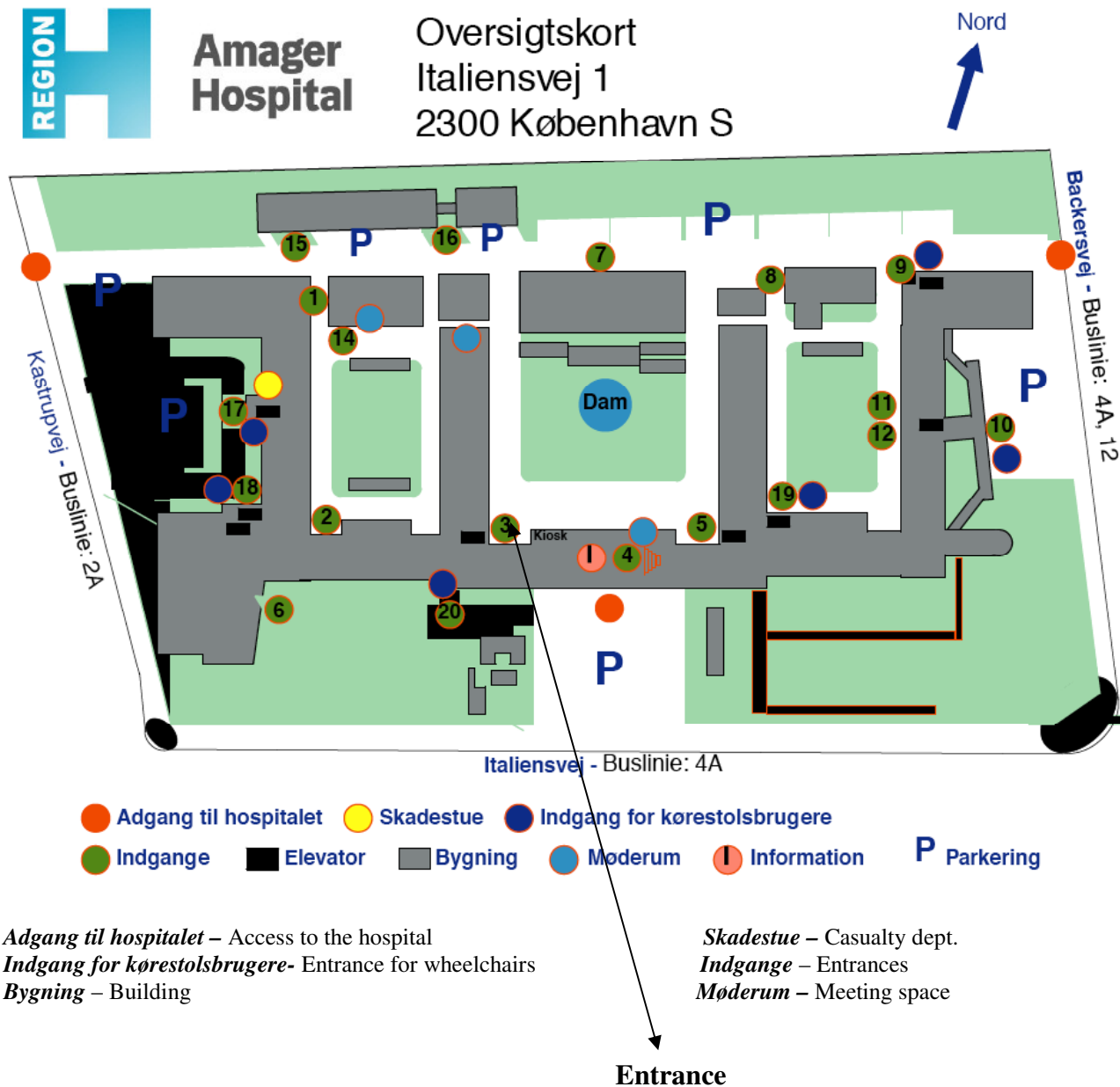
WC Brown Publishers, London 2003: Hole

- Ford MJ, Hennessey, I, and Japp, A: Introduction to Clinical Examination, Eighth Edition. Churchill Livingstone, London 2005: Ford.Munro JF, Ford MJ: Introduction to Clinical Examination, 8th Edition.
- O'Neill P, Dornan T, Denning DW: Medicine. A Core Text with Self-Assessment. Churchill Livingstone, 3rd Edition, 2007: O'Neill.

In reading compendium:

- *The World Health Report 1998: Life in the 21st Century*, Geneva: WHO; 1998, pp.1-4, 17-18.
- *Advanced Trauma Life Support for Doctors - Initial Assessment and Management*, American College of Surgeons Committee on Trauma (ATLS): Chapter 1, Initial Assessment and Management, pp. 21-58.
- Lecture Notes on Clinical Examination, with Clinical Case Review assignment guide.
- *Lecture Notes: Radiology* by Pradip R. Patel, Blackwell Publishing 2005, 2nd edition: Introduction, pp.1-18.
- *Part I – The Field of Pediatrics*, by R. E. Behrman, pp.1-22, Nelson Textbook of Pediatrics, 17th ed, 2003: Chapter 1, Overview of Pediatrics.
- Background notes on Immunisation & Mäkelä PH, Lankinen K: "Preventions of Infectious Diseases by Immunisation", *Health and Disease in Developing Countries*, London: Macmillan 1994, pp. 469-478.
- "Critical care", by D.F. Treacher & I.S. Grant, pp.185-211, chapter 4, *Davidson's Principles and Practice of Medicine*, 19th edition.

***NOTE: Not all reading assignments will be covered in class, but all reading assignments are absolutely necessary in order to follow what is actually covered in class.**



Transportation: Bus 4A, 2A or Metro to Amager Hospital, Italiensvej
 Metro direction: Lergravsparken (Kastrup lufthavn) and bus 2A or 4A from there
 (approximately 3-5minutes) or 15 minutes walk from Lergravsparken. Metrostation: Amager Strand
 8 minutes walk.

Amager Hospital, Italiensvej 1, 2300 København S

Course Overview

Friday, August 28

Location: Conferenceroom: Medicinsk daghospital, Entrance 3, Second floor

Time: 15:00-17:00

Lecturer(s): Jens and Johannes

Special Information: Meet **Jackie** at DIS front desk at 14:00 sharp

Reading Assignment: Ford *pp1-13*

Lecture 1: Course Overview

Presentation of the course and introduction of faculty and students

Tuesday, September 1

Location: Conferenceroom: Medicinsk daghospital, Entrance 3, Second floor

Time: 15:00-17:00

Lecturer(s): Jens and Johannes

Reading Assignment: Ford: *pp 13-82*

Lecture 2: Standard Clinical Examination and From Diagnosis to Therapy *Part 1

- History and physical examination, understanding signs and symptoms, the structure of medical records.
- Integration of history, physical examination, laboratory studies and imaging techniques into clinical diagnosis, treatment strategies and monitoring of therapy.
- Introduction to Clinical Case Reviews

Friday, September 4

Location: Conferenceroom: Medicinsk daghospital, Entrance 3, Second floor

Time: 15:00-17:00

Special Information: ****Elect Class Representatives**

Lecturer(s): Jens and Johannes

Reading Assignment: Ford: *pp 82-171*

Lecture 3: Standard Clinical Examination and From Diagnosis to Therapy *Part 2

- History and physical examination, understanding signs and symptoms, the structure of medical records.
- Integration of history, physical examination, laboratory studies and imaging techniques into clinical diagnosis, treatment strategies and monitoring of therapy.
- Introduction to Clinical Case Reviews.

Monday, September 7

****Short Tour Orientation 18:30-19:00 Vestergade 10-A11****

Tuesday, September 8

Location: Conference room: Medicinsk daghospital, Entrance 3, Second floor

Time: 15:00-17:00

Lecturer(s): Johannes

Reading Assignment: *Hole: pp. 385-428 (9th)+ O'Neill 117-172*

Lecture 4: Gastro- intestinal System

- Anatomy and physiology
- Most frequent disease entities

- Diagnostic methods and treatment possibilities
- Intestinal, liver and pancreatic disease

Thursday, September 10 - Saturday, September 12

No Class: Short study tour

Tuesday, September 15

Location: Conference room: Medicinsk daghospital, Entrance 3, Second floor

Time: 15:00-17:00

Lecturer(s): Jens and Johannes

Reading Assignment: *Hole: pp. 385-428 (9th)+ O'Neill 117-172*

Lecture 5: Gastro-intestinal System

- Intestinal, liver and pancreatic disease

Friday, September 18

Location: Conference room: Medicinsk daghospital, Entrance 3, Second floor

Time: 15:00-17:00

Lecturer(s): Johannes

Reading Assignment: *Hole: pp. 428-453 (9th)+O'Neill 69-99*

Lecture 6: Respiratory System 1

- Anatomy and physiology
- Most frequent disease entites
- Diagnostic methods and treatment possibilities
- Demonstration of lung function

Tuesday, September 22

Location: Conference room: Medicinsk daghospital, Entrance 3, Second floor

Time: 15:00-17:00

Lecturer(s): Jens and Johannes

Reading Assignment: *Hole: pp. 428-453 (9th)+O'Neill 69-99*

Lecture 7: Respiratory System 2

- Chronic obstructive lung disease
- Asthma bronchiale
- Lung cancer

Friday, September 25

Location: Laboratory, Entrance 2, First floor

Time: 15:00-17:00

Lecturer(s): Jens and Johannes

Special Information: Meet **Mette and/or Jackie** at the Main-entrance at 14:50 sharp

Reading Assignment: *N/A*

Lecture 8: Clinical 1: Cardiovascular system

- Blood pressure measurements & stethoscope
- Exercises in resuscitation and basics of CPR
- Instructions on how to do an intravenous drip

Clinical Case Review #1

Monday, September 28

****Long Tour Orientation 18:30-19:00 Vestergade 10-A11****

Tuesday, September 29 *TEST 1

Location: Conferenceroom: Medicinsk daghospital, Entrance 3, Second floor

Time: 15:00-17:00

Lecturer(s): Jens

Reading Assignment: *Hole: pp. 323-360 (9th)+O'Neill 7-32, 41-46*

Lecture 9: Cardio-Vascular System 1

- Anatomy and physiology
- Most frequent disease entities
- Diagnostic methods and treatment possibilities

Theoretical Case Review #1 Handout

Friday, October 2

Location: Conferenceroom: Medicinsk daghospital, Entrance 3, Second floor

Time: 15:00-17:00

Lecturer(s): Jens and Johannes

Reading Assignment: *Hole 323-360+ O'Neill 7-32, 41-46*

Lecture 10: Cardio-Vascular System 2

- Ischemic heart Disease
- Hypertension
- Diagnostic methods and treatment possibilities

Sunday, October 4 – Saturday, October 10

No class: Long Study Tour

Tuesday, October 13

Location: Conferenceroom: Medicinsk daghospital, Entrance 3, Second floor

Time: 15:00-17:00

Lecturer(s): Jens & Johannes

Reading Assignment: *Background Notes on Diagnostic Imaging & Lecture Notes on Radiology, Blackwell science 1998: Introduction, pp.1-18. (in Reading Compendium)*

Lecture 11: Imagining techniques in Diagnosis

- X-ray, Ultrasound, computerized tomography, magnetic resonance and other techniques.

Presentation of Theoretical Case #1

Friday, October 16

Location: Conference room: Medicinsk daghospital, Entrance 3, Second floor

Time: 15:00-17:00

Lecturer(s): Jens

Reading Assignment: *Hole: pp. 157-159, 182-197 and O'Neill: pp. 341-364.*

Lecture 12: Musculoskeletal system

Tuesday, October 20

Location: Conference room: Medicinsk daghospital, Entrance 3, Second floor

Time: 15:00-17:00

Lecturer(s): Johannes

Reading Assignment: *O'Neill: 295-303 (Sections 7.1-7.2) and 312-326 (Section 7.6-7.8). Hole (9th): 276-297.*

Lecture 13: Endocrinology

- Anatomy and physiology
- Most frequent disease entities
- Diagnostic methods and treatment possibilities

****Study Tour Wrap-up 18:00-19:00 room 10-A32****

Friday, October 23

Location: Conference room: Medicinsk daghospital, Entrance 3, Second floor

Time: 15:00-17:00

Lecturer(s): Johannes

Reading Assignment: *Hole (9th): 422-424 (Section 10.5) O'Neill:500-508 (Sections 19.4-19.5) and 510-516 (Sections 19.7-19.8)*

Lecture 14: Gynaecology and Obstetrics

- Conceptions and fetal development
- Antenatal and postnatal care
- Family Planning

Tuesday, October 27

Location: TBA

Time: 15:00-17:00

Lecturer(s): Jens and Johannes

Reading Assignment: *Hole: pp 264-273 (9th); Ford: pp 56-57 & 126-129*

Lecture 15: Ophthalmology/Eyes

- Anatomy and physiology
- Most frequent disease entities
- Diagnostic and treatment methods

Clinical Case Review #2

Friday, October 30

Location: Conference room: Medicinsk daghospital, Entrance 3, Second floor

Time: 15:00-17:00

Lecturer(s): Jens R. & Guest lecturer: Jens Glazowski MD

Reading Assignment: *Handouts in Binder*

Lecture 16: Paediatrics

- Children: Challenges and possibilities
- Examination and Major Childhood Diseases

Clinical Case Review #2 due

Saturday October 31 – November 15

No class: Travel Break

Tuesday, November 17

Location: Conference room: Medicinsk daghospital, Entrance 3, Second floor

Time: 15:00-17:00

Lecturer(s): Johannes

Reading Assignment: *Hole: pp 202-210 & 220-233 (9th) O'Neill: pp 213-218 (Section 5.1) & 223-238 (Sections 5.3-5.4) and 235-238 (Section 5.6)*

Lecture 17: The Central nervous System

- Anatomy and physiology
- Most frequent disease entities
- Diagnostic and treatment methods

Theoretical Case Review #2

Friday, November 20

Location: Laboratory, Entrance 2, First floor

Time: 15:00-17:00

Lecturer(s): Jens and Johannes

Special Information: Meet **Mette** at TBA destination

Reading Assignment: *N/A*

Lecture 18: Clinical 2: Suture & Cast

- Learn how to suture
- Practical applications of casts

Tuesday, November 24 *TEST 2

Location: Conferenceroom: Medicinsk daghospital, Entrance 3, Second floor

Time: 15:00-17:00

Lecturer(s): Jens and Johannes

Reading assignment: *O'Niell: pp 218-222 (5.2) & 408-431 (main emphasis on 10.1, 10.2 & 10.9)*

Lecture 19: Presentations of Theoretical Case Review #2

Friday, November 27

No class: DIS Closed

Tuesday, December 1

Location: Conference room: Medicinsk daghospital, Entrance 3, Second floor

Time: 15:00-17:00

Lecturer(s): Jens

Reading Assignment: *O'Neill: pp. 218-222 & 408-431 (main emphasis on 10.1, 10.2 & 10.9)*

Lecture 20: Infection

- Disease examples
- Infections
- Meningitis
- Antibiotic therapy

Friday, December 4

Location: Conference room: Medicinsk daghospital, Entrance 3, Second floor

Time: 15:00-17:00

Lecturer(s): Johannes & guest lecturer

Reading Assignment: *Advanced Trauma Life Support for Doctors- Initial Assessment and Management (in Reading Compendium)*

Lecture 21: Traumatology

- Accidents
- Disasters
- Emergency Medicine
- A visit to the Emergency Department if possible

The Critically Ill Patient

- Visit to the Intensive Care Unit if possible
- Most frequent disease entites
- Diagnostic and treatment methods

Tuesday, December 8

Location: Conference room: Medicinsk daghospital, Entrance 3, Second floor

Time: 15:00-17:00

Lecturer(s): Jens and Johannes

Reading Assignment: *N/A*

Lecture 23: Presentation of cases

Friday, December 11

Location: Panum Institute

Time: 15:30-17:30

Lecturer(s): Guest Lecturers: Troels Wesenberg Kjær, *Head medical doctor in Clinical Neurophysiology, National University Hospital (Rigshospitalet) in fields of epilepsy and sleep, and TA*

Special Information: Meet **Mette and/or Jackie** at the DIS Front desk at 14:50 sharp

Reading Assignment: *Ford: pp 56-59 & 117-152*

Lecture 22 - Clinical 3: Clinical Examination Exercises on the Central Nervous System

Half of class will start with the cns exercise, while the second half will visit the Macro anatomic lab, after an hour, the students will switch.

- Auriscope ecamination
- Ophthalmoscope
- Demonstration of brain stem reflexes, audimetry, color vision & fields
- A trip to the macro anatomic lab

Thursday, December 17

Location: DIS (room TBA)

Time: 12:00-14:00

Proctored by DIS staff

****FINAL EXAM****