Anatomy

COURSE NO: ANAT1002
Title: Anatomical Dissection
Faculty: Elizabeth Ezeaman, PhD
Time Commitment: February 2012
Months Offered: February 2012
Enrollment: Maximum 20
Visiting Students: With Permission

Course Description

Goals: The goals of this course are to provide a complete review of specific regions of the body through dissection, oral evaluation, and clinical correlation.

Format: The format of the course includes a thorough dissection of one of four regions of the body:
1) Head and neck
2) Thorax and abdomen
3) Extremities and back
4) Abdomen, pelvis, and perineum
Each student will present a clinically oriented topic to the whole class, and be evaluated by an oral examination on the specific region (including relevant embryology) chosen for dissection.

Evaluation Methods: Evaluation is based on thoroughness and quality of dissection, oral examination of anatomical knowledge (with expectations above the first year level), and a clinical presentation evaluated by a clinician of the student’s choosing.
**Pathology**

**COURSE NO:** PATH1052  
**Title:** Autopsy Pathology  
**Faculty:** Autopsy Staff (Contact Jane Murray at 847-0392, jane.murray@vtmednet.org)  
**Time Commitment:** 1 or 2 months  
**Months Offered:** All except January and July  
**Enrollment:** 2 students per month  
**Visiting Students:** Yes

---

**Course Description**

**Goals:**  
This course will enhance the student’s understanding of diseases and their complications by attending and participating actively in autopsies, correlating the clinical record with the findings, and reading about each case.

**Format:**  
Students will spend one month on the autopsy service, read each clinical record, and participate in the gross and microscopic autopsy to its completion. Students will attend all autopsy conferences and clinical conferences at which autopsy cases are presented. Emphasis will be placed on learning the complications of diseases, case presentation, how to think about diseases in a pathogenetic sequence for enhanced understanding, learning proper death certification, and reading about topics of interest to the student. The student is expected to rotate to forensic pathology, too.

**Evaluation Methods:**  
Student’s participation, contribution to case work-ups, presentation of clinical histories, and ability to describe autopsy findings will be assessed by the autopsy faculty, after an appropriate interval. Students are expected to demonstrate a satisfactory understanding of each case attended, from both the autopsy and from their reading.
COURSE NO: PATH1055
Title: Forensic Pathology
Faculty: Chief Medical Examiner, Steven Shapiro, MD
        Elizabeth Bundock, M.D., Ph.D., Deputy Chief Medical Examiner
Time Commitment: 1 month
Months Offered: Any month (except July and August) as pre-arranged the Chief Medical Examiner’s Office
Enrollment: 1 student per month
Visiting Students: Yes

______________________________________________________________

Course Description

Goals: The objectives of the course are:
       1. To acquaint the student with the medical examiner system in the State of Vermont.
       2. To provide the student with the opportunity to participate in the functions of the Office of the Chief Medical Examiner, which include death scene investigation and autopsy examination, including X-ray, chemical, and toxicological analyses.
       3. To stimulate interest in forensic medicine through practice, library and investigative research, and teaching.

Format: The course involves the day-to-day practice of forensic pathology. It requires the student to accompany the Medical Examiner on scene visits, to participate in medicolegal autopsies, to research special topics of interest, and to learn methods of central record keeping and preparation of statistical reports. A special research project of the student’s choosing is expected.

Evaluation Methods: A critical student evaluation is based on the enthusiasm, willingness, and ingenuity employed in practice and review of autopsy protocols and research papers prepared.
COURSE NO: PATH1057
Title: Surgical Pathology
Faculty: Surgical Pathology Staff
Time Commitment: 1 month
Months Offered: All month
Enrollment: Maximum of 2 individuals per month
Visiting Students: Yes

Course Description

Goals: This course will provide exposure to diagnostic clinical/pathologic correlation, and will help the student develop an appreciation of the pathologist's role in patient diagnosis and management.

Format: The students will observe the methods used in describing, processing, analyzing, and interpreting surgical pathology material. They will have an opportunity to see gross and microscopic specimens, frozen sections, and other special materials from all surgical disciplines. They will observe the use of special techniques and their role in diagnosis. A 20-minute presentation related to a topic or case of interest in pathology is required at the end of the rotation.

Evaluation Methods: Several surgical pathology attendings and residents will evaluate each student. A composite evaluation will be compiled by the surgical pathology director reflecting the student's motivation and attentiveness, as well as aptitude for, and appreciation of, techniques used in surgical pathology diagnoses. Preparedness and content of presentation will also be evaluated.
Course Description

Goals: This course will provide exposure to neuropathology.

Format: This course will give students a review of major classes of neurological diseases using pathological approaches. Clinical-pathologic correlation is emphasized.

Evaluation Methods: Evaluation is informal.
COURSE NO: PATH1061
Title: Hematopathology
Faculty: Ronald Bryant, MD; Michael Lewis, MD; and John H. Lunde, MD
Time Commitment: One month by arrangement with Dr. Lunde
Months Offered: Dates must be pre-arranged with Dr. Lunde
Enrollment: 1 student per month
Visiting Students: Yes

Course Description

Goals:
The objectives of this course are to:
1. Gain experience in review of peripheral blood smears and bone marrow specimens.
2. Provide a comprehensive approach to hematopathology involving the clinical hematology laboratory, morphological hematopathology, and clinical-pathological correlation.
3. Review the hematological aspects of systemic disease.

For interested students, we will cover basic topics in coagulation and orientation to coagulation laboratory techniques.

Format:
The content of the course involves:
1. Familiarity with routine and special clinical hematology laboratory procedures.
2. Study of selected morphology problems in bone marrow, spleen, and lymph node.
3. Attendance and participation in clinical and pathology conferences involving hematology problem cases.
4. Participation in daily review of problem cases, bone marrow studies, and consultation material.

Evaluation Methods:
Evaluation will be based on:
1. Participation in the activities of the service.
2. Attendance and participation in conferences.
3. Student’s approach to problem solving.
4. *Grades - Honors, Pass, Fail

* Based on performance and participation
COURSE NO: PATH1066
Title: Clinical Pathology Elective
Faculty: E.G. Bovill, MD; R. Bryant, MD; M. Fung, MD; M. Lewis, MD; J. Lunde, MD;
G. Sharp, MD; M. Tang, MD and W.C. Winn, Jr., MD (contact Dr. Bryant)
Time Commitment: 1 month
Months Offered: All
Enrollment: 1-2 students per month
Visiting Students: Yes

Course Description

Goals: This course will expose students to basic laboratory tests in blood bank, chemistry,
hematology, and microbiology with emphasis on test selection and interpretation.

Format: Students spend 2 to 5 days in each of the specialty laboratories. Students may spend time
doing bench work and interacting with the staff, but the student more often is an
observer. Students are required to attend departmental conferences.

Evaluation Methods: Evaluations are based on attendance and interaction with attending staff.
Grades - Honors, Pass, Fail

Honors based on:
1. Evaluation of “excellent” from each service.
   A short paper approved by and graded by director of pertinent
clinical service, i.e., chemistry subject -- Dr. Sharp.
Course Description

Goals: Research month(s) may involve either an introductory or in-depth exposure to an ongoing research program.

Format: Arrangements for research opportunities can be made with individual staff members.
# Family Medicine

**COURSE NO:** FM1120  
**Title:** AI Family Medicine, FAHC  
**Faculty:** Anya Koutras, MD, Director  
Attending Physicians on the Family Medicine Inpatient Teaching Service  
**Time Commitment:** 1 month  
**Months Offered:** All  
**Enrollment:** 1 student per month  
**Visiting Students:** Yes

## Course Description

**Goals:** The goal is to give the student a practical experience on an inpatient team with responsibility for day-to-day care of hospitalized adult medical and obstetrical patients.

**Format:** Students will be assigned to work closely with the third year Family Medicine resident on the Inpatient Teaching Service and will take call with that resident. Learning opportunities include daily teaching rounds, bi-weekly family medicine rounds, subspecialty rounds and a half-day experience in Milton at the outpatient FM Residency practice. Students will participate in the Family Medicine Resident Seminars on Wednesday mornings.

**Evaluation Methods:** Performance will be evaluated by the monthly teaching attending, the weekly faculty rounding attendings, the Family Medicine residents, and by performance at the end-of-course CSE. Students will also give a formal Case Presentation.
COURSE NO:       FM1127
Title:           Ecosystem Change and Human Health
Faculty:        Charles L. Hulse, MD PhD
                 Department of Family Medicine
                 Charles. Hulse@vtmednet.org
                 (802) 656-5909
Time Commitment: 1 month
Months Offered: May, July, September, November, January (2012)
Enrollment:     Maximum of 8 students per month
Visiting Students: Yes

Course Description

Goals: To advance the learners knowledge and understanding of the interactions between ecosystem health and human physical, mental and spiritual health.

Format: A directed self-study experience. The learner will complete a series of video- / web- / text-based modules focusing on a variety of issues related to environmental change and human health. Topics to be investigated include the health consequences of global warming, ozone depletion, persistent organic pollutants, ozone depletion, endocrine disruptors, loss of biodiversity, pesticide and antibiotic resistance and emerging and re-emerging diseases.

The learner will prepare one short written project (2500 words) describing a current issue related to ecosystem change and human health. Topics are to be approved by preceptor in advance.

The learner will be expected to give a brief (10 to 15 minute) presentation on their project during the final session of the course.

The learner(s) will meet with the preceptor weekly to review content of modules, participate in discussion sessions and review progress on projects. The course discussion sessions will occur on the last four Fridays of each month from 1:30 to 2:30 pm. The schedule is subject to change depending on holidays, etc.

Evaluation Methods: Performance will be evaluated using a course-specific form. Emphasis will be placed on completing assigned modules, participation and preparedness in discussion sessions and the written project and oral presentation. Students must be available for the first, the last and one of the two other discussion sessions to receive at least a passing grade for the course.
COURSE NO: FM1128
Title: Introduction to Global Health
Faculty: Omar Khan, MD MHS FAAFP, Clinical Assistant Professor, Department of Family Medicine
University of Vermont College of Medicine
Contact Info: (802) 734-7191
omar.khan@vtmednet.org

Time Commitment: 1 month
Months Offered: July ’11, October ’11, December ’11, January ’12
Enrollment: Maximum of 6 students per month
Visiting Students: At instructor discretion. Please email instructors for permission to apply.

Course Description

Goals: The Introduction to Global Health elective is offered as a 1-month discussion-based course. We welcome UVM medical students from all levels; other graduate students; and advanced undergraduate students. Participation should be approved by your advisor/division/school, as applicable. The following are addressed as part of the course curriculum, in 4 modules:

a) Background:
   • Basics of epidemiology as applied to global health
   • Historical background of tropical medicine
   • Social determinants of health with an emphasis on primary care
   • Funding models and priorities in community & global health

b) Reproductive Health cluster:
   • Obstetrics in developing settings, including obstetric fistula
   • Prenatal care
   • Reproductive rights, family planning and contraception

c) Models of care cluster
   • Models of GH work
   • Relief work, missionary medicine, international development, NGOs
   • Medical anthropology and respect for others’ ways of understanding illness

d) Case studies in infectious diseases
   • WHO’s Expanded Programme on Immunization
   • The end of polio?
   • Disease eradication versus disease control
   • HIV/AIDS, community-based control and HAART therapies
   • Pandemic influenza

At the conclusion of the course, students will demonstrate the ability to:
1. Formulate a working definition of the term global health, and its relationship to such concepts as public health, tropical medicine, and travel medicine.

2. Describe levels or stages of preventive medicine programs, give examples of these programs in the context of global health, and through experiences with
case studies, describe basic aspects of such programs in terms of efficacy, cost-effectiveness, integration with other interventions, etc.

3. Demonstrate familiarity with basics of epidemiologic methods and terms, and the application of these to selected cases (eg. developing health policy towards an intervention to reduce burden of disease in a population).

4. Define cultural competency in the context of global health and medical practice, and give examples from case studies of how cultural competency may affect the outcome of a health intervention.

5. Define the concept of the "ecological context" of health; give examples and discuss the impact on population health from cultural practices, geography and climate, environmental degradation, agricultural and nutrition practices, economic influences, and local/regional/international political factors.

6. Develop a summary analysis of organizations involved in global health activities, and describing their mission, activities, funding sources, and relationship to other organizations involved in global health activities.

7. Develop a personal plan (if applicable) for an international health student or residency rotation, to include identifying and describing: the organization with which the student will be affiliated; the history of the identified project and an analysis of the identified need; the role of the student in the project, including projects if any; and the expected outcomes for the student, the local population, and the affiliated organization.

**Format:**
1. Focused readings and student-led discussions
2. Case studies
3. Directed self-study
   a. All course materials with the exceptions of handbooks posted on the University of Vermont COMET system.
   b. Printed articles to be distributed to students as needed.
4. Final student paper/presentation on a global health topic.

**Evaluation Methods:**
Participant performance relative to the Learning Objectives will be evaluated using the Advanced Integration Evaluation Form. Students will evaluate this selective course using the standardized course evaluation form.
COURSE NO: FM1135
Title: Palliative Care
Faculty: Ursula McVeigh, MD (contact person); Allan Ramsay, MD; Barbara Segal, RN, MS; Maura McClure, RN, MSN; Robert Macauley, MD; Zail Berry, MD, Staff at Vermont Respite House and the home hospice program of the Visiting Nurse Association
Time Commitment: 1 month
Months Offered: All
Enrollment: 1 student per month
Visiting Students: By permission only

Course Description

Goals:
The goals of this elective are:

1. To understand how people transition from curative or restorative treatment goals to palliative care when facing a life threatening medical condition and to experience the rewards of helping people achieve comfort and dignity at the end of life.

2. To learn the basic principles of palliative and hospice care, including:
   a. Effective communication skills, including empathetic listening and the ability to discuss difficult and painful issues with diverse groups of people.
   b. A holistic, team approach to patients and their families, with primary concern for their psychosocial, emotional and spiritual needs.
   c. Management of symptoms such as pain, dyspnea, nausea and vomiting, constipation, diarrhea, anxiety, sleep disturbances and many other physical problems common to patients at the end of life.

3. To encourage students to reflect on their personal feelings about death and dying, and to develop an understanding of death as a natural experience. Students learn how people find opportunities for growth at the end of life, and how the experience can enrich their own personal and professional lives.

Format:
Students divide their time between the inpatient palliative care service at FAHC, the Vermont Respite House in Williston, and home visits with hospice nurses. They will attend the weekly interdisciplinary team meetings of the Hospice of the Champlain Valley. Students will prepare consultations with the palliative care team at FAHC, make palliative care rounds in the MICU, and attend the Palliative Care Clinical Case conferences. They can also elect to work with the Pediatric Advanced Care Team.

Evaluation Methods:
Students are expected to participate in daily patient care and pursue outside reading (books supplied). Students also prepare four palliative care consultations during the elective, and they will prepare a presentation on a topic of their choice at the end of the month.
COURSE NO:          FM1181  
Title:              Family Medicine Scholarly Project  
Faculty:            Charles Hulse, MD, PhD  
                    Department of Family Medicine  
                    Charles.Hulse@vtmednet.org  
                    (802) 656-5909  
Time Commitment:   1 - 2 months  
Months Offered:    All  
Enrollment:        1 student per month  
Visiting Students: Yes  

Course Description

Goals: The student will conduct a research project in primary care, with a goal of understanding research methodology, data analysis, and formal presentation.

Format: Students will develop their own project or work with faculty on an aspect of the faculty’s research. Faculty will provide ongoing supervision. There will be an opportunity to submit research for presentation at a primary care research meeting.

Evaluation Methods: A research paper will be written. A brief 2-page outline of the proposed project is required to be submitted to the Institutional Review Board prior to the beginning of the project. A summary research paper and/or PowerPoint presentation will be written at the conclusion of the project.
Anesthesiology

COURSE NO: ANES1501
Title: Clinical Anesthesiology
Faculty: Joseph Fitzgerald, MD and Lydia Grondin, MD; and Mitchell Tsai, MD
Time Commitment: 1 month
Months Offered: All
Enrollment: 2 students per month
Visiting Students: Yes

Course Description

Goals: The objective of this course is to provide an overview of anesthesiology, including airway management, perioperative pharmacology, intraoperative physiologic evaluation, and postoperative pain management. Students may elect to spend a portion of the elective on the obstetrical analgesia/anesthesia service, as well as the chronic pain service.

Format: 1. Students will provide longitudinal perioperative care to surgical patients under the supervision of an attending anesthesiologist. This will involve preoperative patient assessments, formation of anesthetic plans, administration of general and regional anesthetics, and postoperative pain control.
2. Students will have an assigned reading list, and will attend the scheduled teaching conferences provided by the anesthesiology department.
3. Students will be given a pre-test the first week of their rotation and a closed book end of rotation exam as well.
4. Each student will have the opportunity to construct a personal plan for the month-long rotation, under the direction of an attending physician. Thus specific goals for learning can be identified and pursued.

Evaluation Methods: Student evaluation will be based upon daily contact with members of the Anesthesiology Department. Students will be asked to evaluate the rotation, as part of an ongoing effort by the department, to improve the quality of education.
COURSE NO: ANES1503
Title: Anesthesiology Research
Faculty: Christopher M. Viscomi, MD
Time Commitment: 1 month minimum
Months Offered: All Months
Enrollment: No limit
Visiting Students: Yes

Course Description

Goals: Conducting a clinical research project seems intimidating. Nonetheless, conducting research is simply a learned process with elements common to every project undertaken. The primary goal of this course is to introduce the student to the process and mechanics of how to ask an appropriate question, review the literature, develop a study protocol, execute it, and publish the results.

Format: Students will work with experienced research faculty in advance of the designated month to develop a research idea. This may represent a significant time commitment. The month designated for the rotation itself will be devoted to inaugurating (and often completing) the project itself. The student is expected to complete a manuscript for submission for publication as a result of this work. Faculty guidance and support as well as departmental secretarial support assist the student through the process. The student is expected to present a short verbal summary of the research at an appropriate departmental conference. Interested students should contact the course director as early as possible.

Evaluation Methods: Performance will be evaluated using the Advanced Integration Evaluation Form.
# Medicine

**COURSE NO:** MED1099  
**Title:** Introduction to Geriatrics in a Modern Nursing Facility  
**Faculty:** Robert Karp, MD  
Given PCIM Group, UHC  
1 South Prospect St.  
Burlington, VT 05401  
802-847-4531  
**Time Commitment:** 1 month  
**Months Offered:** By Arrangement  
**Enrollment:** 1 student per month  
**Visiting Students:** Yes

## Course Description

**Goals:** By the end of the first quarter of this century 20% of our population will be over 65 and will account for half of all health care expense. The enormous impact of our aging population means that all physicians should have some exposure and experience with geriatric care and issues. More than 40% of seniors will spend some time in a nursing facility. Nursing facility patients are increasingly more acutely ill, admitted after recent strokes, fractures, or surgeries, and are often managed in the facility for a variety of acute complications such as pneumonia and delirium.

The goals are:

1. To gain familiarity with the basic science and clinical variants of aging, specific geriatric syndromes, and end-of-life issues.
2. To improve history, physical diagnosis, and clinical treatment skills by providing comprehensive medical evaluations and daily acute and chronic medical care (free of the pressures and interruptions of the more intense academic teaching hospital environment).
3. To observe how care is provided in a “non-traditional” care model. In particular, this means learning to work as a member of the case management team.
4. To gain experience in the principles of geriatric rehabilitation and restorative therapy by working with physical, occupational and speech therapists.
5. To develop skill administering and interpreting the mini-mental status exam, geriatric depressions scales, and geriatric functional assessment.

**Format:** The elective will take place at Starr Farm Nursing Center in Burlington, a 150-bed facility with a large sub-acute care service and long-term care, where I am the medical director. Starr Farm offers a supportive environment with an interested and medically sophisticated staff, and patients and families who appreciate the involvement of trainees. Students will participate in direct patient care at least five half days each week. Weekly sessions with physical therapy, occupational therapy, speech therapy, social service, and “skin care team” will be coordinated. I will provide short talks on topics such as functional assessment, introduction to nursing homes, and geriatric therapeutics. If scheduled, the student will be encouraged to participate with me at administrative meetings such as quality improvement, infection control, ethics or others.

**Evaluation Methods:** Students will be evaluated on the basis of interest and development of evaluation and management skills over the course of the month; ability to become a part of the case management team; and a presentation made to staff near the end of the rotation.
COURSE NO: MED2502
Title: Clinical Cardiology
Faculty: Philip Ades, MD; Kenneth Brown, MD; Mark Capeless, MD; Timothy Christian, MD; Harold Daherman, MD; Prospero Gogo, MD; William Hopkins, MD; Friederike Keating, MD; Arthur Levy, MD; Martin Lewinter, MD; Robert Lobel, MD; Daniel Lustgarten, MD; Markus Meyer, MD; David Schneider, MD; Peter Spector, MD; Christopher Terrien, Jr., MD; Edward Terrien, MD; Marc Tischler, MD; Peter Van Buren, MD; and Matthew Watkins, MD
Time Commitment: 1 month
Months Offered: All
Enrollment: Maximum of 2 students per month
Visiting Students: Yes

Course Description

Goals: The goals of this elective are to gain:
1. Improved skills in cardiovascular assessment and management including patient histories and physical exams.
2. Increased knowledge of selected cardiac topics including acute coronary syndromes, congestive heart failure, lipid management, etc.
3. Improved understanding of clinical cardiac problems in isolation and in the context of other surgical/medical problems.
4. Achievement of basic EKG reading and interpretation and an enhanced understanding of more advanced cardiovascular testing.

Format:
1. Primary assessment of inpatient cardiac consultations and presentation to attending physician.
2. Attendance at all scheduled cardiology education programs.
3. Attendance at daily inpatient cardiology teaching Rounds and coronary care unit Rounds.
4. Primary EKG reading with tutored review by cardiovascular fellow.
5. Observation of invasive and noninvasive cardiac diagnostic techniques (catheterization, angioplasty, exercise testing, echocardiography, etc.).

Evaluation Methods: Qualitative collective cardiac staff assessment will be based upon observation of student performance.
COURSE NO: MED2506
Title: Dermatology
Faculty: Glenn Goldman, MD, Chairman; Kathryn Schwarzenberger, MD; Julie Lin, MD; Todd Holmes, MD; Christine Weinberger, MD; Jamie Alpert, MD
Time Commitment: 1 month
Months Offered: All
Enrollment: 3 students per month
Visiting Students: Yes

Course Description

Goals:
1. **History**: Learn to collect data efficiently as related to dermatologic conditions.
2. **Exam**: Learn how to do a complete and focused skin examination and to describe skin lesions.
3. **Medical Knowledge**: Learn the basics of acne, warts, atopic dermatitis, psoriasis, nevi, skin cancer, and other common dermatologic ailments.
4. **Treatment**: Begin to understand and plan appropriate therapy for medical and surgical dermatologic conditions.
5. **Systems of Practice**: Learn when to refer to dermatology and when to initiate treatment on your own.
6. **Hands on Skills**: Some students with further interest will be able to perform basic procedures such as skin biopsy, cryosurgery, excision, and suture.

Format: Dermatology Outpatient Clinic in the Ambulatory Care Facility.

Evaluation Methods:
1. Day to day evaluation in the clinic.
2. Special topic presentation (Students are to present on one topic to the residents and attending physicians).
3. The student will also be given the opportunity to evaluate the course at the end of the elective.
COURSE NO:       MED2508  
Title:           Endocrinology, Diabetes and Metabolism  
Faculty:         R.C. Christian, MD; J.L. Leahy, MD; M.H. Nathan, MD, PhD; and J.J. Schnure, MD; R.Pratley, MD, M.P. Gilbert, DO, MPH; A. Marney, MD  
Time Commitment: 1 month  
Months Offered:  All  
Enrollment:      2 students per month  
Visiting Students: Yes  

Course Description

Is this for you?  
The diabetes and endocrine elective is highly recommended for medical students who are considering residency training in primary care (family medicine, ob-gyn, pediatrics, and internal medicine) or surgery. A child born in the USA today has a 1 in 3 lifetime chance of developing diabetes mellitus. Over 40% of surgical inpatients experience hyperglycemia during admission and diabetes-related conditions account for 45% of adult primary care office visits. Pituitary abnormalities are incidentally detected in 20% of head imaging studies and thyroid disorders affect over 15% of adults.

Goals:  
The inpatient experience teaches students to manage hyperglycemia and common endocrine emergencies in hospitalized patients. The goal of the outpatient clinic experience is for students to learn to diagnose and treat patients with diabetes and endocrine disorders as part of an integrated healthcare team that includes diabetes educators, surgeons, pathologists and radiologists.

Format:  
The inpatient experience:  
Medical students on the endocrine consult service are part of a team that includes a medical resident and/or endocrine fellow and attending. On daily hospital rounds students learn to manage blood sugars in medical and surgical inpatients with diabetes or hyperglycemia after surgery or during a critical illness. In addition to inpatient diabetes management, students will learn to diagnose and treat common endocrine emergencies such as diabetic ketoacidosis, hyponatremia, hypercalcemia, thyrotoxicosis and adrenal insufficiency.

The outpatient experience  
The endocrine and diabetes clinics are held every afternoon at 3 Timber Lane, a short drive from the hospital (students may drive from the hospital with the attending, car is not required). Medical students will see patients with each member of the endocrine care team, which includes diabetes educators, dieticians, nurse practitioners, endocrine fellows, and bone density technician, as well as the endocrine attendings. Our students are encouraged to attend classes for patients with newly diagnosed diabetes, such as Diabetes Survival Skills and Living Well with Diabetes, as well as one-on-one sessions in which patients are taught to use insulin pumps. Medical students will see adult patients with acquired and hereditary bone diseases in the multi-disciplinary metabolic bone clinic, held in the ACC Building East Pavilion. Students may elect to see patients with Cystic Fibrosis Related Diabetes (CFRD) in a monthly clinic held in the ACC Building East Pavilion.
Didactics:
Two weekly teaching conferences are held at the Timber Lane office. Each Monday at noon, medical students attend endocrine grand rounds, a conference that rotates weekly among 4 formats: research, case conference, diabetes conference, and journal club. Each Thursday, a didactic conference is held from 12-1, with lectures on endocrine pathophysiology. A pathology conference is held each Friday morning at the hospital, in which the thyroid biopsies and surgical pathology of the previous week are reviewed under the microscope with a pathologist.
Two monthly conferences are held at the hospital. The imaging-radiology-pathology conference, in which the imaging and surgical pathology of endocrine cases are discussed, is attended by the surgeons, pathologists and radiologists involved in the diagnosis or treatment of the patients presented. The metabolic bone conference, held Friday at noon, is a lecture series on bone diseases.

Thyroid US:
Medical students will learn to perform thyroid ultrasound and assist with thyroid biopsies in our procedure room. Each week they will attend a thyroid cytopathology conference, in which the biopsies of the previous week are reviewed under the microscope with a cytopathologist.

Bone Density:
Medical students may observe DXA scanning, and learn how to interpret DXA scans so as to guide osteoporosis diagnosis and treatment.

Web Resources:
The Endocrine Society (www.endo.org)
The Osteoporosis Center (www.fahc.org/osteoporosis)
The Hormone Foundation (www.hormone.org)
The American Thyroid Association (www.thyroid.org)

Up To Date

Texts:
The Primer on Metabolic Bone Diseases. 7th edition. On reserve at the Dana Library.

Evaluation Methods
The endocrine faculty will evaluate student performance using the Advanced Integration Evaluation Form.
COURSE NO:  MED2510  
Title:  Clinical Gastroenterology  
Faculty:  N. Ferrentino, MD; S. Lidofsky, MD, PhD; G. Mawe, PhD; P. Moses, MD; D. Strader, MD; J. Vecchio, MD; A. Lee, MD; R. Zubarik, MD and E. Ganguly, MD  
Time Commitment:  1 months  
Months Offered:  All  
Enrollment:  Maximum of 2 students  
Visiting Students:  Yes

--------------------------------------------------------------------------------------

Course Description

Goals:  Goals are the development of approach to the diagnosis and treatment of a variety of gastrointestinal disorders with emphasis on pathophysiology and pathogenesis of disorders involving esophagus, stomach, small intestine, large intestine, pancreas, and liver.

Format:  Students will be expected to work-up patients with a variety of gastrointestinal disorders who are seen in consultation, or who are hospitalized, by members of the gastroenterology unit. The clinical experience is broadened in outpatient settings as well. The students will be responsible for a number of patients and will participate in Rounds made by the gastroenterology service including an attending physician, fellow in gastroenterology, and members of the house staff. Students will observe and may assist in a variety of gastrointestinal procedures including endoscopy and liver biopsy. They will be expected to participate in formal conferences by discussion of selected aspects of the pathogenesis, pathophysiology or clinical course of patients with gastrointestinal disorders.

Evaluation Methods:  Student evaluation is based on thoroughness, efficiency, reliability, and analytical ability observed throughout the rotation. A written evaluation will be submitted at the end of the rotation.
**COURSE NO:** MED2511  
**Title:** Gastroenterology/Hepatology Research  
**Faculty:** N. Ferrentino, MD; S. Lidofsky, MD, Ph.D.; G. Mawe, Ph.D.; P. Moses, MD; D. Strader, MD; J. Vecchio, MD; A. Lee, MD; R. Zubarik, MD and E. Ganguly, MD  
**Time Commitment:** 2 - 12 months  
**Months Offered:** All  
**Enrollment:** Maximum 5 students any one time  
**Visiting Students:** Yes

**Course Description**

**Goals:** The goals of this elective are to expose students to basic and/or clinical research in diseases of the digestive tract and liver. The elective provides opportunities in developing critical thinking with respect to health-related research and to master skills in study design, biostatistics, or state-of-the-art biological techniques. Extended participation may result in a submission of an abstract or manuscript for publication.

**Format:** Students may elect to participate in clinically oriented human studies or in basic laboratory studies involving cellular and molecular biology. Active areas of clinical investigation include assessment of new therapies for inflammatory bowel disease, esophageal cancer, and viral hepatitis. Areas of laboratory investigation include the biology of the enteric nervous system, regulation of biliary motility, control of adaptive responses to metabolic stress in liver cells, and the role of ion channels in regulation of liver function.

**Evaluation Methods:** Evaluation will be made by the preceptor on a periodic basis and will focus on independent and analytical thinking, participation in the research project, technical aptitude, and communication skills from written summaries or oral presentation.
COURSE NO: MED2513
Title: Hematology/Medical Oncology
Faculty: Steven Ades, MD; Mary Cushman, MD, MSc; Kim Dittus, MD, PhD; Steven Emmons, MD; Barbara Grant, MD; Marc Greenblatt, MD; Steven Grunberg, MD; Chris Holmes, MD, PhD; Farrah Khan, MD; Julian Sprague, MD, PhD; Marie Wood, MD; Claire Verschraegen, MD, and Neil Zakai, MD
Time Commitment: 1 month
Months Offered: All
Enrollment: Maximum of 1 student per month
Visiting Students: Yes

Course Description

Goals: Students will:

1. Understand the principles of contemporary treatment of cancer, including hematologic malignancies.

2. Learn to evaluate and treat disorders of red cells, white cells, platelets and hemostasis.

3. Understand the principles of clinical research as applied to hematology and medical oncology.

Format: A clinically oriented experience based primarily in the outpatient clinic, with participation in ward Rounds on inpatients and consultations. Attendance at selected multidisciplinary teaching conferences is required. There will be an opportunity to review peripheral blood and bone marrow morphology.

Evaluation Methods: Performance will be evaluated using the Advanced Integration Evaluation Form.
**Course Description**

**Goals:**
Goals for the student are:
1. To learn the approach to the evaluation and management of common renal problems including acute kidney injury, fluid, electrolyte, and acid-base disorders, and hypertension.
2. To gain an appreciation for the problems in the long-term care of patients with chronic kidney disease and end-stage renal disease.
3. To learn the role of the consultant.

**Format:**

**Activities:**
1. Daily teaching Rounds with nephrology attending.
2. Twice weekly clinical conferences.
3. Once monthly Pathology Conference.

**Student Responsibilities:**
1. Initial evaluation of new consults, review with resident or nephrology fellow, and presentation to nephrology attending.
2. Daily follow-up of consults, with progress notes as indicated.
3. One weekend/month call with attending.
4. Read and report current literature relating to patients.

**Evaluation Methods:**
Evaluation will be by the nephrology attending, with emphasis on thoroughness, clarity, and analytic skills demonstrated in written work-ups and oral presentations, evidence of independent learning, and care shown to patients.
COURSE NO: MED2525
Title: Clinical Pulmonary Medicine Elective
Faculty: Gilman Allen, MD; Jason H.T. Bates, PhD; Gerald S. Davis, MD; Anne E. Dixon, MD; Susan Dunning, MD; Charles G. Irvin, PhD; David A. Kaminsky, MD; Theodore W. Marcy, MD; Polly E. Parsons, MD; Matthew Poynter, PhD; Benjamin Suratt, MD; Daniel J. Weiss, MD; Laurie Whittaker, MD; Michael P. Young, MD; Yolanda Mageto, MD; Renee Stapleton, MD and Lennart Lundblad
Time Commitment: 1 month
Months Offered: All
Enrollment: 1 student per month
Visiting Students: Yes

Course Description

Goals:

1. The student should know how to evaluate a respiratory disease problem by:
   a. Eliciting a directed and detailed respiratory disease history.
   b. Carrying out a detailed respiratory system physical examination.
   c. Requesting and interpreting appropriate radiologic, physiologic, serologic and other specialized clinical data.
2. The student should learn the role of biopsy, bronchoscopy, physiologic tests, and other special studies in the management of lung disease patients.
3. The student should become familiar with the location and use of the major published information sources in Pulmonary Medicine.

Format:
The student sees patients in the hospital or ambulatory care unit on whom pulmonary consultation is requested, discusses them with pulmonary fellows and attending staff, and writes a report subject to their review. The student attends Rounds daily on consultation patients and those admitted to pulmonary medicine. The student observes and assists with bronchoscopy, pulmonary function studies, lung biopsies, and other specialized tests. The student will participate in weekly pulmonary medicine conferences.

Evaluation Methods:
The student will be evaluated by:
1. Quality of patient data collection, analysis and orderly presentation.
2. Extent and depth of independent study and reading.
3. Direct observation of bedside skills.
4. Organization of time and effort in relation to identified patient care tasks.
**Course Description**

**Goals:**
At the end of the one month rotation the student will be familiar with:
1. Musculoskeletal physical exam and data collection.
2. Natural history and treatment of rheumatic disease
   a. Rheumatoid arthritis
   b. Osteoarthritis
   c. SLE, PSS, and other "collagen-vascular diseases"
   d. Ankylosing spondylitis
   e. Crystal-induced arthritis
   f. Regional disorders of joints and related structures
3. Clinical immunology related to the rheumatic diseases
4. Joint aspiration and synovial fluid analysis
5. Interpretation of bone and joint x-rays.

**Format:**
The student will attend outpatient clinics, in-patient consultation Rounds, Department of Medicine conferences, Rheumatology Division Conferences, and lectures during the rotation. Attending supervision will be provided by the full-time faculty and fellow.

Students will read the Primer on the Rheumatic Diseases and those chapters in the standard rheumatology texts (McCarty and/or Kelley, Hoppenfeld for physical exam) relevant to their patient experiences. In-depth journal review and report of selected, pertinent topics will be part of the training experience. Students will also review the teaching slide collection and taped lectures.

**Evaluation Methods:**
Evaluation will be based on data collection, physical exam skills, analysis and orderly presentation. The extent of independent study and reading will be evaluated.
COURSE NO: MED2541
Title: Clinical Ethics
Faculty: Robert Macauley, MD, Medical Director of Clinical Ethics
Time Commitment: 2 weeks or 1 month (may be combined with Palliative Care)
Months Offered: All months except August
Enrollment: 1 student per month
Visiting Students: Yes

Course Description

Goals:
- In depth exposure to ethical dilemmas in clinical practice
- Practical training in the method and basis of clinical ethics consultation

Format:
- Attendance at weekly case conference/peer review
- Participation in all clinical ethics consults
- Independent reading, suited to student’s interest
- Research opportunities

Evaluation Methods:
- Written analysis/recommendations of real and hypothetical ethics cases
- Frequent discussions with faculty regarding ethical topics and readings
COURSE NO: MED2576
Title: Applied Medical Info/Telemedicine Research
Faculty: Terry Rabinowitz, MD
Time Commitment: 1-2 months
Months Offered: All months
Enrollment: Maximum of 3 students at any one time
Visiting Students: With approval only

Course Description

Goals: The goals of this elective are:
1. To facilitate understanding of the need to evaluate the use of computers and/or telemedicine in the clinical care process.
2. To introduce the student to research in the academic medical center, including the organization of a grant proposal and the requirements of an IRB (Institutional Research Board).
3. To provide the student with experience in the design, organization and implementation of a research project to evaluate a medical informatics and/or telemedicine program.
4. To write a paper for publication or presentation at a medical informatics or telemedicine conference (two-month selective only).

Format: At the beginning of the elective, the student will meet with the course director(s) and a faculty mentor, if applicable, to develop specific educational goals for the Selective and define the parameters of the research. The student will either develop a research project or participate in on-going research with the Fletcher Allen and UVM telemedicine program. At least once a week the student will meet with the assigned faculty member for review of the research and progress towards meeting the educational objectives. The final week of the two-month Selective will be devoted to writing a research paper for presentation or publication.

Evaluation Methods: Evaluation will be based on the educational objectives for the Selective, and the paper for the two-month Selective.
Learn to manage the common medical comorbidities of the inpatient psychiatric patient. Practice advanced communication skills in difficult patients.

**Goals**

Mornings are spent on the inpatient floors, seeing patients and attending rounds. Afternoons are spent in teaching sessions or in the library.

**Format**

Direct observation and feedback. Written assignment.

**Evaluation Methods**
Neurology

COURSE NO: NEUR3501
Title: AI Neurology – Neurology Ward Service
Faculty: Neurology Attending Staff
Time Commitment: 1 month minimum
Months Offered: All. Due to the somewhat limited availability for this inpatient AI rotation, in selecting students for this rotation, we will give priority to those pursuing careers in neurology, psychiatry, rehabilitation medicine, neurosurgery, and ophthalmology.
Enrollment: By arrangement
Visiting Students: Yes

----------------------------------------

Course Description

Goals: To expand on examination and localization skills learned in the Neurology Clerkship. Students will learn about the clinical approach to common inpatient neurological disorders, develop the clinical neurological skills to manage patients with stroke, epilepsy, neuromuscular disorders, as well as general neurology, and develop diagnostic expertise in neuroimaging.

Format: The rotation includes inpatient care of neurology ward patients with stroke and other neurological disorders. Also required is daily attendance at ward and consultation rounds. The student is an acting intern and participates in night and weekend overnight call. There is continuous supervision by the neurology residents and by attending teaching faculty who round daily. Attendance is required at weekly brain cutting session (neuropathology), neurosciences (neurology and neurosurgery) Grand Rounds, neuroradiology rounds, professor rounds, clinical case seminars for medical students, and neuroscience conferences for the residents. In most instances, outpatient experience in the clinics will be built into the rotation.

Video Case Presentation: The student will be asked to present a clinical case using a brief videotaped vignette. Over the course of this hour long presentation, there will be a discussion of the pertinent components of the history and exam, including a discussion of the likely site of lesion and the differential diagnosis. Finally, diagnostic and treatment options will be elaborated. A literature review should support the case discussion.

Evaluation Methods: The ward service attending will meet with each student individually after two weeks for a preliminary evaluation and a final review will be given at the conclusion of the rotation. Dr Fries will also meet periodically with the student to discuss his or her progress. The student’s grade will be based on the quality of patient work ups, presentations, participation, diagnosis and management discussion at daily rounds and weekly professors and patient review rounds. Feedback from the attendings and residents will be sought and the student will be given a written examination. Clinical feedback, assessment of the student presentation and the Neurology Shelf Examination score will determine the grade.
Course Description

Goals: The principles and skills underlying the recognition and management of neurologic diseases that a general medical practitioner is most likely to encounter in practice will be taught. Informal lectures and discussions will introduce the range of neurologic diseases of infants and children, including developmental delay, learning problems, autism, epilepsy, headache, and neurogenetic diseases. The student will gain experience with interview and examination techniques for children with neurologic conditions, and will learn how to perform a comprehensive neurological exam on an infant. At various points during the clerkship, the student will be observed obtaining a history and performing the neurological exam on a patient.

The elective is designed to allow students to focus on an area within pediatric neurology that is of particular interest to them. It also affords the opportunity to hone history-taking skills, speaking skills, to do a critical review of the literature and to become more proficient in using informatics and the literature. The student will make at least one oral presentation which is expected to be 20-40 minutes in length. Format of the project could consist of one of the following:

Case presentation. This may be a case that you have encountered during the rotation, during another rotation or it may be a case seen by another student or resident. Cite relevant references in discussing case. If relevant, present visual documentation such as video footage of the exam, MRI scans, EEG tracing, pathology slides, etc.

Literature review of a topic. The topic will generally be a disease entity or a clinical presentation but it could also be a test abnormality (e.g. causes of basal ganglion calcification).

Clinical Algorithm. In this format a diagnostic or therapeutic algorithm will be devised. Consideration should be given to the cost and risks of all intervention points in the decision tree.

Format: The elective in Pediatric Neurology will be a mixed inpatient and outpatient experience of 4 weeks. Students will spend time participating in clinics, inpatient consultation, and projects/electives. Students will observe/participate in morning rounds and clinics. Elective/project time will be spent on a subject mutually selected by the student and faculty preceptor. The elective and project time is expected to culminate in either a written or an oral presentation by the student.

Outpatient Clinic: Will include general child neurology cases. The student is expected to work up and present one new patient every 1/2 day clinic. The students will observe other patients and will be graded on questions that they present during the clinic.

Independent: 1. Work on a project due at the end of the rotation in the form of a written or oral report. The project should typically consist of a literature review of a topic depending on the student's interests, but other formats could be considered and developed in conjunction with the preceptor. 2. Reading on cases seen in out- or in-
Evaluation Methods

The students will be evaluated based on: 1. Clinical performance as judged by the faculty preceptor as well as input from residents and fellows; emphasis will be placed on the ability to interview children and parents and on the ability to deliver a clear, concise and thorough oral presentation of a patient's history and examination, 2. The quality of their project/presentation, and 3. Questions during lectures and clinical experiences.
**Course Description**

**Goals:** The goal is to provide the student with the opportunity to engage in a clinical or laboratory research project of his/her choice or to participate in an ongoing project with a faculty member. Projects must be arranged specifically with a faculty member after discussion with Dr. Waterman (Department of Psychiatry) or Dr. Hamill (Department of Neurology). There is a range of scholarly activities in the two departments.

**Format:** To be arranged. In most instances, the student will be asked to give a formal presentation of their research work at the end of the rotation.

**Evaluation Methods:** Performance will be evaluated on the basis of the interest, originality, and productivity demonstrated by the student.
## Psychiatry

**COURSE NO:** MDPS3550  
**Title:** AI Inpatient Psychiatry  
**Faculty:** Shepardson 3: Mark Hoskin, MD & Judith Lewis, MD  
Shepardson 6: Isabelle Desjardins, MD, Suzanne Kennedy, MD, Isabel Norian, MD  
**Time Commitment:** 1 month  
**Months Offered:** All  
**Enrollment:** 2 students per month (1 student per floor per month)  
**Visiting Students:** Yes

---

### Course Description

**Goals:** The goal is to provide the student with supervised patient care responsibility on a general hospital psychiatric inpatient service. The Acting Intern will develop a basic level of competence in the assessment and acute management of a wide variety of patients with psychiatric illness.

Shepardson 3 unlocked unit has 12 beds and patients are admitted primarily for mood and anxiety disorders, chronic pain, personality disorders and substance abuse. Shepardson 6 has 16 beds and treats a wider spectrum of patients including those of acute psychosis, mania, and behavioral disturbances associated with dementia.

**Format:** The Acting Intern will be an integral member of the inpatient treatment team and will work directly with the inpatient unit’s attending psychiatrists, as well as other members of the multi-disciplinary staff. They will have primary responsibility for at least three inpatients at a time. They will also take one night call with the resident up to four times during the month. The AI will participate in didactics and case conferences that are part of the education of the Psychiatry residents.

**Evaluation Methods:** Performance will be evaluated using the Advanced Integration Evaluation Form. The Acting Intern’s competence will be assessed at the mid-point and end of the rotation by the attending psychiatrists.
COURSE NO: MDPS3554  
Title: Outpatient Psychiatry  
Faculty: James Jacobson & members of outpatient faculty  
Time Commitment: 1 month  
Months Offered: All by Arrangement  
Enrollment: Maximum of 1 student per month  
Visiting Students: Yes

Course Description

Goals:  
The goal is to provide the student with a variety of experiences in outpatient psychiatry, depending upon the particular interests of the student. Areas in which students may participate include psychopharmacology, child and adolescent psychiatry, geriatric psychiatry, memory disorders, cognitive behavioral psychotherapy, methadone treatment, partial hospital treatment, and pain evaluation and management.

Format:  
The student, together with the course director, will design a schedule for the month that includes experiences in those areas of outpatient psychiatry that are of particular interest to him or her, and to gain experience in the assessment and management of patients who are treated in the outpatient setting. During a typical outpatient psychiatry month medical students attend the ongoing residents psychotherapy seminars on Mondays, the Mood and Anxiety Disorders Clinic one or two afternoons each week, participation in the Psychopharmacology Clinic and Rounds on Tuesday afternoons, and participation 2 mornings a week (generally on Tuesday and Thursday mornings) at Seneca, the partial hospital/day program where students observe and participate in group cognitive behavioral therapy. Wednesdays are usually spent in the Pediatric Psychiatry Clinic participating in the evaluation of new and ongoing patients. Friday morning includes attendance of Grand Rounds, and participation in the Geriatric Clinic. A review of literature on a selected topic and presentation of that review on one of the outpatient services is expected of each student.

Evaluation Methods:  
Performance will be evaluated using the Advanced Integration Evaluation Form. The student will be evaluated on the basis of his or her initiative and professionalism, and on the knowledge and skills s/he is able to acquire.
COURSE NO: MDPS3560
Title: Child & Adolescent Psychiatry
Faculty: Robert Althoff, MD; Allison Hall, MD; James Hudziak, MD; John Koutras, MD; Marlene Maron, PhD; David Rettew, MD, and Alexandra Thomsen, MD
Time Commitment: 1 month
Months Offered: All except August and October
Enrollment: 1 student per month
Visiting Students: Yes

-------------------------------
Course Description

Goals: The primary goal is to gain exposure to child and adolescent mental health issues in multiple practice settings, including primary care.

Format: The student will be involved in various types of outpatient contact, including emergency appointments, community public sector appointments, scheduled new evaluations and follow-ups, a resident-based clinic, and outpatient consultation to medically ill patients.

The outpatient visits will include the family based approach developed at the Vermont Center for Children Youth and Families. The student will participate in consultations to the inpatient pediatric medical service at The Vermont Children’s Hospital. There will be pediatric outpatient site visit case review consultations to pediatricians and family medicine physicians. The student may also participate in state-of-the-art telepsychiatry evaluations and office hours with remote Vermont sites. The student will also gain exposure to hospital diversion/residential diagnostic programs, substance abuse group treatment, and a therapeutic school setting. There will be a trip to a daycare and a special education pre-K classroom to observe early development.

The medical student will participate in weekly formal and informal didactic sessions, including Grand Rounds, a resident seminar, case review meetings, and literature reviews.

Evaluation Methods: Performance will be evaluated using the Advanced Integration Evaluation Form. The student will be evaluated on the basis of her/his initiative and professionalism, and on the knowledge and skills she/he is able to acquire.
Obstetrics & Gynecology

COURSE NO: OBGY4503
Title: AI General Obstetrics
Faculty: Elisabeth Wegner, MD
Time Commitment: 1 month
Months Offered: All
Enrollment: 1 student per month
Visiting Students: Available if not requested by UVM student 3 months in advance

---------------
Course Description
---------------

Goals: The goals of this Acting Internship are:
1. To develop skills and gain knowledge in managing labors and deliveries of women with term pregnancies.
2. To strengthen skills in triage, teamwork, and teaching.
3. Other specific goals as identified by the student.

Format: The student will manage obstetric patients admitted to the Birthing Center by working as a night float under the supervision of the resident and attending staff. The student will work 5 nights a week, and 2 Saturdays during the month.

Each student participating in the General Acting Internship is expected to contact Dr. Wegner at least two weeks before beginning the rotation so that schedules can be formalized and goals identified. This rotation has proven useful in career decision when considering OB/GYN as a specialty. It has also been helpful in improving obstetrical decision-making skills for all students participating.

Evaluation Methods: Clinical performance will be reviewed by attending physicians and nurse-midwives, residents, and nurses. The student will also complete a self-assessment of attitudes and teamwork skills.
**Course Description**

**Goals:**
This Acting Internship will allow the student to spend one month dealing in-depth with the entire spectrum of problems seen and cared for by the gynecologic oncology service.

**Format:**
Students will attend and participate in gynecology Rounds, all tumor service operations, tumor clinic, tumor conferences, private consultations, and office sessions and outreach conferences. The student is expected to follow patients before and after surgery, including overnight GYN call responsibilities twice a week.

**Evaluation Methods:**
The student will work closely at all times with the gynecologic oncology staff. The clinical performance as well as the knowledge gained will be evaluated in an ongoing fashion. Support staff and residents will evaluate the student. A written paper or oral presentation reviewing a clinical question or problem will be required for honors.
COURSE NO: OBGY4505
Title: Reproductive Endocrinology
Faculty: John Brumsted, MD; Peter Casson, MD; Julia V. Johnson, MD; Christine Murray, MD; and Daniel H. Riddick, MD, PhD
Time Commitment: 1 month
Months Offered: All
Enrollment: 1 student per month
Visiting Students: Available if not requested by UVM student 3 months in advance

Course Description

Goals: The goals of this course are:
1. To familiarize the student with the clinical aspects of basic human reproductive physiology and endocrinology.
2. To assist the student in developing skills related to the detection of ovulation, the evaluation of disorders of ovulation, management of normal and abnormal early pregnancy.
3. To help the student develop a clinical awareness of the psychosocial concomitants of reproductive endocrine disorders and reproductive failure.

Format: Four half days weekly will be devoted entirely to evaluation of new and follow-up patients on the reproductive-endocrine-infertility service. Approximately two new outpatient evaluations per week will be included in this experience. Patients seen would be those being followed for infertility of a variety of causes, amenorrhea, menstrual disorders, recurrent abortions, and abnormalities of the sexual development.

There will be three conferences weekly, one devoted to presentation of clinical problems, one devoted to basic reproductive-infertility service, and one journal club or research conference.

Students will become familiar with basic relevant surgical procedures. This would be expected to include approximately 5 hysterosalpingograms per week, 5 laparoscopies per week, and approximately 1 major gynecologic surgical case per week.

This schedule allows generous free time during which the student will be required to develop a short presentation of his/her own related to a relevant area of a particular interest.

Evaluation Methods: The student will be evaluated according to standard criteria for clinical activities as well as for learning and investigative skills.
COURSE NO: OBGY4506
Title: AI Maternal-Fetal Medicine
Faculty: Ira M. Bernstein, MD; Eleanor L. Capeless, MD; Peter Cherouny, MD; Cathleen Harris, MD; David Jones, MD; Marjorie C. Meyer, MD; and Mark Phillippe, MD
Time Commitment: 1 month
Months Offered: All
Enrollment: 1 student per month
Visiting Students: Available if not requested by UVM student 3 months in advance

Course Description

Goals:
The goals of this course are:
1. To familiarize the student with the normal physiologic changes that occur during pregnancy.
2. To allow the student to gain experience in the management of medical problems (diabetes, hypertension, etc.) during gestation.
3. To introduce the student to basic clinical genetics and teratology.

Format:
Students will attend and participate in the four half-day weekly outpatient clinics (antenatal diabetic clinic and high risk clinic) as well as daily interpretation of obstetrical ultrasound and fetal stress tests. Student will also be expected to participate in the management of in-house patients and maternal-fetal transports to Fletcher Allen Health Care. The student will have ongoing responsibility for outpatient diabetic management as well as selected hospitalized patients. The student is expected to attend and participate in the weekly Maternal-fetal Medicine Conferences as well as the combined OB/Pediatric Conference. There will be night call responsibility for MFM patients in labor. The student will develop a short presentation or paper related to a relevant area of particular interest.

Evaluation Methods:
The student will be evaluated according to the standard criteria for clinical activities as well as for learning and investigative skills.
Pediatrics

COURSE NO: PED1091
Title: Developmental Pediatrics
Site: Vermont Children’s Hospital
Faculty: Stephen Contompasis, MD
Time Commitment: 1 month
Months Offered: By permission only, due to very limited availability. Please contact the
Pediatric Residency Coordinator at 802-847-3544 or the Pediatric Clerkship
Coordinator at 802-656-0026 for available openings.
Enrollment: 1 student per month by special arrangement
Visiting Students: Yes

Course Description

Goals: During this elective the student will:
1. Become familiar with developmental diagnosis within an interdisciplinary team format.
2. Learn about early intervention resources and community collaboration.
3. Become more experienced in providing family centered care.

Format:
1. Regular participation in child development clinics.
2. Individual tutoring by developmental pediatricians.

First Day: Contact Stephen Contompasis, MD at stephen.contompasis@uvm.edu before beginning
the elective to schedule the time and meeting place for the first day.

Evaluation Methods: Evaluation will be based on seminar procedures.
COURSE NO: PED5501
Title: AI Pediatrics, FAHC
Site: Vermont Children’s Hospital
Faculty: L.R. First, MD; W.V. Raszka, MD; and Pediatrics Faculty
Time Commitment: 1 month
Months Offered: By permission only, due to very limited availability. Please contact the Pediatric Residency Coordinator at 802-847-3544 or the Pediatric Clerkship Coordinator at 802-656-0026 for available openings.
Visiting Students: Yes

Course Description

Goals: This Acting Internship will give the student a practical experience in a ward setting with increasing responsibility for the day-to-day care of hospitalized children.

Format: The Acting Intern will function in the role of a PL-1 with a reduced patient load under the guidance of the attending, senior resident, and other residents. Students will be assigned to a care team consisting of a PL-2 resident, PL-1 residents, and 4-6 pediatric clerkship students. The Acting Intern will be expected to evaluate ill children seen in the Emergency Room, work up patients admitted to the pediatric service, and perform routine diagnostic procedures. Additional responsibilities include managing hospitalized pediatric patients, arranging diagnostic and therapeutic interventions, communicating the patient’s progress with the attending and resident teams, and facilitating clerkship students’ learning. Night call is approximately every fourth night.

First Day: Contact the Residency Coordinator at 847-3544 before beginning this rotation to schedule a time and meeting place for the first day.

Evaluation Methods: Performance will be evaluated by the pediatric attendings, senior resident, and other resident members of the health care team, using the Advanced Integration Evaluation Form.
COURSE NO: PED5502
Title: AI NICU Pediatrics
Site: Vermont Children’s Hospital
Faculty: Roger Soll, MD
Time Commitment: 1 month
Months Offered: By permission only, due to very limited availability. Please contact the Pediatric Residency Coordinator at 802-847-3544 or the Pediatric Clerkship Coordinator at 802-656-0026 for available openings.
Visiting Students: Yes

------------------------------------------------------------------------

Course Description

Goals: This Acting Internship will familiarize the student with problems encountered in delivery of intensive care to premature and sick newborn infants.

Format: Students will function as Acting Interns in the neonatal intensive care unit. They will be responsible for admission work-ups and routine daily care of the infants, and will perform diagnostic procedures under the supervision of a pediatric resident. Students will attend high risk deliveries and learn the basics of neonatal resuscitation. Night call is approximately every third night.

First Day: Contact the Residency Coordinator at 847-3544 before beginning this rotation to schedule a time and meeting place for the first day.

Evaluation Methods: Performance will be evaluated by the pediatric attending and the pediatric residents using the Advanced Integration Evaluation Form.
COURSE NO: PED5503
Title: Pediatric Pulmonology
Site: Vermont Children’s Hospital
Faculty: Thomas Lahiri, MD
Check availability with Vanessa Goodwin: 802-847-3544
Time Commitment: 1 month
Months Offered: By permission only, due to very limited availability. Please contact the Pediatric Residency Coordinator at 802-847-3544 or the Pediatric Clerkship Coordinator at 802-656-0026 for available openings.
Enrollment: 1 student or pediatric resident per month
Visiting Students: Yes

Course Description

Goals: 1. Recognize, evaluate and treat common pediatric respiratory disorders
2. Interpretation of chest imaging and pulmonary function testing
3. Learn about the management of chronic respiratory illness

Format: 1. Four half-day clinics per week (cystic fibrosis and pulmonary)
2. Daily inpatient rounds (both pulmonary service and consultation)
3. Participation in flexible bronchoscopy
First Day: Contact Thomas Lahiri, MD at thomas.lahiri@vtmednet.org before the beginning of the elective to schedule the time and meeting place for the first day.
Evaluation Methods: 1. Direct observation/presentation of case by student
2. Evaluation of new patient and progress notes
3. One didactic presentation per month by the student
COURSE NO: PED5504
Title: Pediatric Gastroenterology & Nutrition
Faculty: Michael D’Amico, MD and Richard Colletti, MD
Site: Vermont Children’s Hospital
Time Commitment: 1 month
Months Offered: By permission only, due to very limited availability. Please contact the Pediatric Residency Coordinator at 802-847-3544 or the Pediatric Clerkship Coordinator at 802-656-0026 for available openings.
Enrollment: 1 student or pediatric resident per month
Visiting Students: Yes

Course Description

Goals: This elective will provide the student with an introduction to the evaluation and management of common problems in pediatric gastroenterology and nutrition, including disorders of the esophagus, stomach, intestines, liver, and pancreas, and feeding problems, nutritional assessment, malnutrition, parenteral nutrition, and special formulas.

Format: The student will work as an Acting Resident, performing consultations on hospitalized patients, and assisting at daily outpatient clinics, and during procedures such as upper and lower endoscopy, manometry, biopsy, breath hydrogen testing, and esophageal pH probe studies. In addition to attendance at conferences and textbook and journal reading, the student will select a topic for review.

First Day: Contact Michael D’Amico, MD at Michael.d'amico@vtmednet.org before beginning the elective to schedule the time and meeting place for the first day.

Evaluation Methods: Performance will be evaluated using the Advanced Integration Evaluation Form.
COURSE NO: PED5508
Title: Sports Medicine
Site: Vermont Children’s Hospital
Faculty: James Slauterbeck, MD
Time Commitment: 1 month
Months Offered: By permission only, due to very limited availability. Please contact the Pediatric Residency Coordinator at 802-847-3544 or the Pediatric Clerkship Coordinator at 802-656-0026 for available openings.
Enrollment: 1 student per month
Visiting Students: Yes

Course Description

Goals: To learn how to how to assess patients with sports medicine complaints;
To improve history and physical exam techniques for sports related musculoskeletal injuries;
To develop a broader knowledge of basic sport medicine conditions;
To familiarize oneself with athletic trainers and sports physical therapists in their treatment and prevention of athletic injury;
To develop a better understanding of the interrelationship between the athlete, athletic trainer, coach, physician, and physical therapist.

Format: The elective will include assigned reading, experience with a professional trainer of athletes, attendance at athletic events where injuries may be expected, ambulatory care of patients with sports injuries, and acting as team physician (under supervision). A short paper (3-5 pages) or an oral presentation will be required and will be assigned by Dr. Slauterbeck. Dr. Slauterbeck will give lectures on various aspects of sports medicine.
First Day: Contact Pediatric Clerkship Coordinator at 656-0026, 2 weeks before the beginning of this elective to obtain a schedule and list of contacts for the month.

Evaluation Methods: Performance will be evaluated by the course preceptor using the Advanced Integration Evaluation Form.
COURSE NO: PED5510
Title: Clinical Genetics
Site: Vermont Regional Genetics Center
Faculty: Leah Burke, MD
Time Commitment: 1 month
Months Offered: By permission only, due to very limited availability. Please contact the Pediatric Residency Coordinator at 802-847-3544 or the Pediatric Clerkship Coordinator at 802-656-0026 for available openings.
Enrollment: 1 student
Visiting Students: Yes

Course Description

Goals: The student will gain a basic understanding of clinical genetics, dysmorphology, and teratology. S/he will learn to evaluate individuals with dysmorphic findings, analyze pedigree data, and provide genetic counseling. S/he will also gain insight as to the application of genetics in medical care for common diseases such as cancer, in both children and adults. S/he will participate in consideration of the ethical implications of genetics.

Format: The student will attend regularly scheduled clinics in Burlington and at outreach sites. S/he will perform inpatient consultations. There will be brief exposure to light microscope cytogenetics and DNA analysis. Readings and computer programs will be provided. The student will participate in any related conferences that occur during the elective. The student will give a 20-minute oral presentation on a topic of her/his interest in genetics.

First Day: Contact Leah Burke, MD at Leah.burke@vtmednet.org before the beginning of the elective to schedule the time and meeting place for the first day.

Evaluation Methods: Performance will be evaluated using the Advanced Integration Evaluation Form.
COURSENO: PED5511
Title: Pediatric Infectious Disease
Site: Vermont Children’s Hospital
Faculty: William V. Raszka, MD
Time Commitment: 1 month
Months Offered: By permission only, due to very limited availability. Please contact the Pediatric Residency Coordinator at 802-847-3544 or the Pediatric Clerkship Coordinator at 802-656-0026 for available openings.
Enrollment: 1 student per month
Visiting Students: Yes

==========================================

Course Description

Goals: This course serves as an introduction to the principles of pediatric infectious diseases. Participants will develop a rational and consistent approach to the ill child with a potential infectious disease complication. Students will learn the important historical and physical examination findings that help guide decision-making. Students will have the opportunity to explore “bugs and drugs” in detail and select particular areas of interest in which to focus.

Format: The student working with the pediatric infectious disease attending, will see all inpatient and outpatient infectious disease consults and patients in the pediatric travel clinic. In addition, the student will participate in joint adult and pediatric infectious disease conferences, microbiology laboratory Rounds, and telephone “curbside” consults.

First Day: Contact William Raszka at William.raszka@uvm.edu before beginning elective to schedule the time and meeting place for the first day.

Evaluation Methods: Performance will be evaluated using the Advanced Integration Evaluation Form.
COURSE NO: PED5512
Title: Pediatric Cardiology
Faculty: Nancy Drucker, MD, Scott B. Yeager, MD and Niels Giddins, MD
Site: Vermont Children’s Hospital
Time Commitment: 1 month
Months Offered: By permission only, due to very limited availability. Please contact the Pediatric Residency Coordinator at 802-847-3544 or the Pediatric Clerkship Coordinator at 802-656-0026 for available openings.
Enrollment: 1 to 2 students
Visiting Students: Yes

Course Description

Goals: Students will develop a basic understanding of the anatomy, physiology and therapy for the most common congenital and acquired pediatric heart diseases.
Format: The student will attend regularly scheduled clinics in Burlington and outreach clinics in Vermont and New York, as well as observe diagnostic studies such as echocardiograms and catheterizations. Readings will be directed according to patient exposure. The student will evaluate all inpatient consultations.
First Day: Contact Nancy Drucker, MD at nancy.drucker@vtmednet.org before the beginning of the elective to schedule the time and meeting place for the first day.
Evaluation Methods: Performance will be evaluated using the Advanced Integration Evaluation Form.
COURSE NO: PED5513
Title: Pediatric Hematology/Oncology
Site: Vermont Children’s Hospital
Faculty: A.C. Homans, MD, Giselle Sholler, MD, and Heather Bradeen, MD
Time Commitment: 1 month
Months Offered: By permission only, due to very limited availability. Please contact the Pediatric Residency Coordinator at 802-847-3544 or the Pediatric Clerkship Coordinator at 802-656-0026 for available openings.
Enrollment: 1 student per month.
Visiting Students: Yes

Course Description

Goals: The student will gain knowledge about the diagnosis and care of children with hematological and oncological diseases. S/he will gain experience in looking at peripheral blood smears and bone marrows, and, if desired and available, will learn an approach to clinical and/or laboratory research.

Format: The student will attend the hematology/oncology clinic, Rounds on all hematology/oncology inpatients, and provide subspecialty consultation for inpatients and outpatients. The student may participate in a clinical project and/or laboratory research experience.

First Day: Contact Alan Homans, MD at 847-2850 before the beginning of the elective to schedule the time and meeting place for the first day.

Evaluation Methods: Performance will be evaluated by the pediatric hematology/oncology faculty using the Advanced Integration Evaluation Form.
**COURSE NO:** PED5520  
**Title:** Pediatric Critical Care  
**Site:** Vermont Children’s Hospital  
**Faculty:** Barry Heath, MD, Amelia Hopkins, MD and Richard Salerno, MD  
**Time Commitment:** 1 month  
**Months Offered:** By permission only, due to very limited availability. Please contact the Pediatric Residency Coordinator at 802-847-3544 or the Pediatric Clerkship Coordinator at 802-656-0026 for available openings.  
**Enrollment:** 1 student per month.  
**Visiting Students:** Yes

---

**Course Description**

**Goals:** The student will gain experience and familiarity in the diagnosis and management of critical illness in children. The physiology and pharmacology of critical illness will be stressed.

**Format:** Clinical instruction in this course will take place in the pediatric intensive care unit, Fletcher Allen Health Care, under the direction of the PICU attending and the senior pediatric resident.

The student will follow patients in the PICU and attend Rounds twice a day. Students will be assigned readings and will attend formal teaching Rounds. Topics may include: blood gas analysis, interpretation of invasive hemodynamic parameters, pediatric airway management, sedation and analgesia, mechanical ventilation, acute respiratory failure, neuro-critical care, sepsis and multiple organ failure, nutrition, and ethical issues. Each student will prepare a patient-related topic for literature review.

**First Day** Contact Barry Heath, MD at barry.heath@vtmednet.org before the beginning of the elective to schedule the time and meeting place for the first day.

**Evaluation Methods** Performance will be evaluated using the Advanced Integration Evaluation Form.
Radiology

COURSE NO.  RAD7501
Title: Nuclear Medicine Subspecialty Elective
Faculty: J. Fairbank, M.D., G. Ebert, M.D., J. Kikut, M.D., and N. Sturtevant, M.D.
Time Commitment: 1 Month
Months Offered: January through June, August through December
Enrollment: 1 student
Visiting Students: Yes

Course Description

Goals: The student will be exposed to the full range of imaging procedures and dynamic studies available in a modern nuclear medicine department. Correlation between clinical findings, x-ray studies, and nuclear medicine findings will be stressed.

Format: Daily participation in the day-to-day daily imaging activities will be expected. The student will review all scans and other examinations with the resident and staff each day.

Evaluation Methods: The student will be evaluated on the basis of the daily performance at scan reading sessions. A major portion of the evaluation will be based on the student's performance on the teaching file case work-up. Failure to submit the teaching file case will result in an incomplete.
Course Description

Goals: The student will be introduced to the diagnostic imaging techniques of computerized tomography (CT) and ultrasound (US). Correlation of these studies with clinical information and other diagnostic imaging techniques will be stressed.

Format: The student will participate in these imaging activities on a rotational basis and be responsible for obtaining clinical information as needed and observing the interpretation of the studies under supervision of resident and attending radiology staff. Each student is expected, under the supervision of an attending radiologist, to research, write up, and briefly present a case for incorporation into our radiology teaching collection. This case will be submitted to the UVM teaching web site.

Evaluation Method: Performance will be evaluated on the basis of participation in the daily activities of the body imaging services. A major portion of the evaluation will be based on the student’s performance on the teaching file case work-up. Failure to submit the teaching file case will result in an incomplete.
COURSE NO: RAD7501
Title: Vascular/Interventional Radiology Subspecialty Elective
Faculty: A. Bhave, M.D., C. Morris, M.D., K. Najarian, M.D., and J. Shields, M.D.
Time Commitment: 1 Month
Months Offered: January through June, August through December
Enrollment: 2 students per month
Visiting Students: Yes

Course Description

Goals: The student will be introduced to vascular and interventional radiology techniques including peripheral angiography, vascular intervention including PTA and percutaneous renal, biliary, and gastrointestinal intervention. Correlation with clinical data and follow-up will be stressed.

Format: The student will work closely with attending and resident staff observing Interventional Radiology procedures and taking part in patient work-up and follow-up. Formal general radiology lectures geared to medical students are available and required during January through May of 2009.

Evaluation Methods: Evaluation will be based on participation in clinical work-up and daily activities. A major portion of the evaluation will be based on the student's performance on the teaching file case work-up. Failure to submit the teaching file case will result in an incomplete.
**Course Description**

**Goals:**
Students will be introduced to modern neuroimaging including newer MRI techniques, such as diffusion and perfusion imaging, spectroscopy, and MR angiography. Clinical correlation and significance will be stressed, as will functional neuroanatomy. Attendance at the Thursday morning Neuroradiology and Neuropathology Conference is encouraged.

**Format:**
Teaching sessions are integrated into morning and afternoon MRI/CT readouts. Communication with clinical colleagues is encouraged.

**Evaluation Methods:**
Evaluation will be based on participation in readout sessions. A major portion of the evaluation will be based on the student's performance on the teaching file case work-up. Failure to submit the teaching file case will result in an incomplete.
COURSE NO: RAD7501  
Title: Thoracic Radiology Subspecialty Elective  
Faculty: P. Dietrich, M.D., G. Gentchos, M.D., C. Green, M.D., and J. Klein, M.D.  
Time Commitment: 1 Month  
Months Offered: January through June, August through December  
Enrollment: 2 students per month  
Visiting Students: Yes  

**Course Description**

**Goals:** The student will be exposed to thoracic imaging including conventional radiographs, computed tomography, magnetic resonance imaging, and image-guided thoracic interventions including transthoracic biopsy, and percutaneous catheter drainage. The correlation between clinical data and imaging findings and the appropriate use of diagnostic imaging findings and the appropriate use of diagnostic imaging in the evaluation of cardiothoracic disease will be stressed.

**Format:** The student will attend and participate in daily interpretive sessions with radiology residents, fellows, and attendings, and will observe interdepartmental rounds, consultations, and conferences.

**Evaluation Methods:** Evaluation will be based on attendance and the quality of participation in interpretation sessions. A major portion of the evaluation will be based on the student's performance on the teaching file case work-up. Failure to submit the teaching file case will result in an incomplete.
COURSE NO: RAD7501
Title: Pediatric Radiology Subspecialty Elective
Faculty: J. Gallant, M.D. and T. Higgins, M.D.
Time Commitment: 1 Month
Months Offered: January through June, August through December
Enrollment: 2 students per month
Visiting Students: Yes
COURSE NO: RAD7501
Title: Time Commitment: 1 Month
Months Offered: January through June, August through December
Enrollment: 1 student
Visiting Students: Yes

.Course Description

Goals: The goals of the Pediatric Radiology Clerkship are:
1. To introduce the medical student to the general concepts of Pediatric Radiology.
2. To learn general approaches of the imaging on infants, young children, older children, and adolescents.
3. To gain knowledge regarding the use of specific imaging studies in the evaluation of common pediatric inpatient and outpatient problems.

Format: The student will work closely with faculty and resident staff observing a variety of imaging studies, which include ultrasound examinations, CAT scan, fluoroscopic studies of the gastrointestinal and urinary tract, and plain film radiography. The student will attend daily film review/teaching conferences conducted by the faculty. They will attend all pertinent lectures and conferences given in the Radiology Department during that month. The student is expected to work independently in studying pediatric radiology teaching files in the Radiology Library and completing reading assignments provided by the faculty. The student is expected to research, organize, and complete on teaching file on a pediatric problem of his/her choice. This teaching file will be presented to the faculty at the end of the clerkship.

Evaluation Methods: A grade will be given based on the merit of the teaching file case (thoroughness, clarity, analytical skills, understanding of imaging and its application to pediatrics), as well as the student’s overall performance (i.e. perceived interest, independent study, and knowledge of imaging). Failure to submit the teaching file case will result in an incomplete.
COURSE NO: RAD7501
Title: Musculoskeletal Radiology Subspecialty Elective
Faculty: Diego Lemos, M.D.
Time Commitment: 1 Month
Months Offered: January through June, August through December
Enrollment: 2 students per month
Visiting Students: Yes

Course Description

Goals: The student will be exposed to musculoskeletal imaging with a heavy emphasis on CT and MRI.

Format: The student will attend and participate in daily interpretive sessions with Radiology residents, fellows, and attendings, and will observe interdepartmental rounds, consultations, and conferences.

Evaluation Methods: A grade will be given based on the merit of the teaching file case (thoroughness, clarity, analytical skills, understanding of imaging and its application to MSK), as well as the student’s overall performance (i.e. perceived interest, independent study, and knowledge of imaging). A major portion of the evaluation will be based on the student’s performance on the teaching file case work-up. Failure to submit the teaching file case will result in an incomplete.
COURSE NO: RAD7503
Title: Radiation Oncology Clerkship
Faculty: Ruth Heimann, M.D., Ph.D., Thomas Roland, M.D., Deborah Rubin, M.D.,
Peter Swift, M.D., and H. James Wallace, M.D.
Time Commitment: 1 Month
Months Offered: January through June, August through December
Enrollment: 2 students per month
Visiting Students: Yes

---------------------------------------------------------------

Course Description

Goals: To familiarize students with the role of radiation oncology in the care of patients
with cancer. To understand the effects of ionizing radiation on normal and
malignant cells and the ways radiation oncologists exploit some of the
differences. The student will learn about state-of-the-art technology that allows
for appropriate radiation delivery. The role of radiation in both curative and
palliative settings will be reviewed.

Format: There will be increasing responsibility over the course of the elective for new
patient evaluation and examination of previously treated patients in cooperation
with other specialty services (e.g. medical oncology, gynecology, ENT, pediatric
oncology). The radiation therapy staff will present introductory sessions
emphasizing clinical techniques and potentials of radiation therapy and
interdisciplinary discussions with other oncology fields.

Evaluation Methods: Evaluation will be based on the quality of participation in work-up of patients,
review of pertinent literature, and enthusiasm in correlation of oncologic
disciplines in management of the cancer patient. A presentation to the staff
related to a topic of interest to the student will be required for an “honors”
grade.
**Orthopaedics**

**COURSE NO:** ORTH8501  
**Title:** Physical Med & Rehabilitation  
**Faculty:** Scott E. Benjamin, MD; Roger C. Knakal, MD; Carol A. Talley, MD; and Thomas J. Zweber, MD  
**Time Commitment:** 1 month  
**Months Offered:** All  
**Enrollment:** 1 student per month  
**Visiting Students:** Yes

-----------------------------------

**Course Description**

**Goals:**  
The goals of this elective are:  
1. To learn the principles of evaluation and management of persons with physical impairment due to disease or trauma.  
2. To learn how to examine the neuro-muscular skeletal system.  
3. To learn to identify and manage the functional problems associated with physical impairments.  
4. To become familiar with the skills and roles of the members of the rehabilitation team.  
5. To learn the role of the physician specialized in Physical Medicine and Rehabilitation.

**Format:**  
The student will experience the broad spectrum of clinical activities carried out by physicians specialized in Physical Medicine and Rehabilitation (PM & R). These include inpatient and outpatient rehabilitation, hospital consultations, physical medicine, electrodiagnostics, and pain management, as well as team leadership and program development. By working up selected patients, the student will become familiar with common PM & R diseases and disabilities, such as stroke, spinal cord injury, traumatic brain injury, amputations, fractures, and chronic pain syndromes.

**Evaluation Methods:**  
Evaluation will be based on the student’s medical knowledge, evaluation and management skills, and interactions with the rehabilitation team. In order to be considered for Honors a presentation may be made to the Faculty at the conclusion of the rotation.
COURSE NO: ORTH8503
Title: Orthopaedics Research Methods
Faculty: Bruce Beynnon, PhD
Time Commitment: 1 - 2 months
Months Offered: All
Enrollment: 1 student per month
Visiting Students: Yes

Course Description

Goals: This elective will provide an introduction to research methods in Orthopaedic biomechanics. Emphasis will be placed on involvement in current research on the spine, knee, shoulder, ankle, and sports medicine.

Format: The student will assist in experimental design, implementation, data acquisition analysis, and write-up. S/he will work closely with research personnel in the Department. S/he will participate as a researcher in teaching and will attend orthopaedic Grand Rounds, journal club and the biomechanics journal club.

Evaluation Methods: Performance will be evaluated by the faculty and research personnel on the basis of the quality of the student’s participation and knowledge of the appropriate literature.
**COURSE NO:** ORTH8506  
**Title:** AI Orthopaedic Surgery  
**Faculty:** Elise Ames, MD; David D. Aronsson, MD; Craig Bartlett, MD; Michael Y. Benoit, MD; John Braun, MD; Mark Charlson, MD; Nathan Endres, MD; David Halsey, MD; James G. Howe, MD; Thomas K. Kristiansen, MD; Martin H. Krag, MD; Jennifer Lisle, MD; James Michelson, MD; Robert D. Monsey, MD; Claude E. Nichols, III, MD; Adam B. Shafritz, MD; James Slautebeck, MD; and Orthopaedic Residents  
**Time Commitment:** 1 month  
**Months Offered:** All  
**Enrollment:** 3 students per month  
**Visiting Students:** Yes

---

**Course Description**

**Goals:** The student will learn how to perform an accurate and thorough history and physical examination of a patient with a musculoskeletal problem. The student will learn how to formulate a diagnosis and develop a treatment plan. The student will be exposed to outpatient orthopaedics in the office where she/he will see common orthopaedic problems. The student will also rotate on an inpatient service to be exposed to hospital-based orthopaedic problems. The student will work closely with the faculty and residents and perform as an Acting Intern. The student will participate in operative orthopaedic surgery and pre- and post-operative management of the musculoskeletal patient.

**Format:** The students will select two 2-week rotations on the following orthopaedic subspecialties: sports medicine, adult reconstruction, trauma and fractures, pediatric orthopaedics & scoliosis, hand & upper extremity, spine. On each subspecialty, the Acting Intern will work closely with the orthopaedic faculty and residents as a member of the Health Care Service Team. The student will assume on-call responsibilities every third night and will participate in conferences and attend journal club.

**Evaluation Methods:** Evaluation will be based on faculty and staff observation.
**Course Description**

**Goals:** The student will learn how to examine and treat common injuries generated in sports, including knee, ankle, leg, arm and shoulder injuries. They will get to help with reduction of fractures and relocation of dislocated joints and help care for all other injuries as well.

**Format:** The clinic runs from 9:30 am to approximately 4:30 pm. The clinic is open 7 days a week and it is suggested that students be there for the weekend days when it is busiest, but certainly could take off a day or two during the week if they didn’t want to be there all the time.

**Evaluation Methods:** Evaluation will be based on faculty and staff observation.
**Surgery**

**COURSE NO:** SURG9501  
**Title:** AI Surgical Critical Care  
**Faculty:** Bill Charash, MD, Director and Members of the Surgery Attending Staff  
**Time Commitment:** 1 Month  
**Months Offered:** All  
**Enrollment:** 2 students per month  
**Visiting Students:** Yes

**Course Description**

**Goals:** The student will function as an integral member of the multidisciplinary medical team directing the care of critically ill patients in the surgical intensive care unit. The student will share responsibility with the junior house staff on the surgical critical care service for the care of 2-3 patients. S/he will be supervised directly by the senior resident and attending on the service. During this rotation, the student will learn to treat complex disease states with multiple organ involvement, to obtain, integrate and use data in a highly technical environment, and to formulate treatment plans based on basic pathophysiologic principles. Exposure to subspecialty neurosurgical care in areas of brain tumors, brain aneurysms, and spinal diseases is also available.

Through a combination of daily teaching Rounds and formal lecture sessions, the core curriculum will cover hemodynamic monitoring, use of inotropes and vasodilators, shock, arrhythmias, pacemakers/IABP, airway management, mechanical ventilation, interpretation of arterial blood gases, use of sedation/analgesics/muscle relaxants, fluid/electrolyte problems, infectious disease, nutrition, endocrine emergencies, and trauma.

**Format:**

1. **Introduction:** At the beginning of the elective, the students will be provided with an introduction to the rotation - discussing the objectives and the expectations for the student during the elective.

2. **Clinical Experience:** The students will actively participate in daily teaching/work Rounds and will be responsible for following 2-3 patients. It is expected that each student will acquire presentation skills, be able to formulate differential diagnoses, and recommend therapy. In addition, the student will be given the opportunity to perform procedures - including the insertion of arterial lines, central lines, and intubations.

**Evaluation Methods:** Evaluation will be based on daily clinical performance
COURSE NO: SURG9506
Title: AI Thoracic & Cardiac Surgery
Faculty: Frank Ittleman, MD; Bruce Leavitt, MD; Mitchell Norotsky, MD; and Joseph Schmoker, MD
Time Commitment: 1 month
Months Offered: All
Enrollment: 1 student per month
Visiting Students: Yes

Course Description

Goals: The goals of this Acting Internship are:
1. To observe and participate in the evaluation and management of patients with surgical thoracic and cardiac disease.
2. To learn the application of monitoring techniques and pharmacologic manipulation in the management of the critically ill cardiac patient.
3. To participate in the intra-operative care of cardiac and thoracic patients, and to improve basic surgical technique.
4. To increase one’s knowledge base of common cardiac and thoracic disease processes.

Format: This is a one-month Acting Internship-type clerkship with days divided between the ward, intensive care unit, and Operating Room, and every fourth night on call in the hospital. Regular Rounds will be made on a daily basis with the house staff, and weekly teaching Rounds with an attending surgeons. Students are allowed and encouraged to participate actively in the pre-operative, intra-operative, and post-operative management of cardiothoracic patients.

Evaluation Methods: Evaluation will be based upon assessment of performance by the attending physicians and the senior resident of the service.
COURSE NO: SURG9508
Title: AI Neurosurgery
Faculty: Bruce I. Tranmer, MD, Chair; MD; Paul Penar, MD; Michael Horgan, MD; Ryan Jewell, MD; Joseph Arguelles, MD
Time Commitment: 1 month
Months Offered: All
Enrollment: 2 students per month
Visiting Students: Yes

Course Description

Goals:
This Acting Internship will give the student a firm background in the fundamentals of the neurological exam, the diagnostic work-up of the neurosurgical patient, and the opportunity to participate in neurosurgical operative procedures. The teaching program is planned to give the student a solid foundation in the pathophysiology of neurosurgical disease and to form the basis from which the student can evaluate both routine and emergent neurosurgical conditions. The emphasis is on giving the student a working knowledge of neurosurgical practice from the standpoint of the specialist; the rotation also gives students interested in primary care an opportunity to learn to recognize both chronic and emergent neurosurgical disease. Exposure to all neurosurgical diseases of the brain such as brain tumors and brain aneurysms, as well as spinal and peripheral nerve disorders is available.

Format:
The student will be a working member of the neurosurgical team. S/he will be under the immediate supervision of the chief resident and the attending staff. S/he shall participate in all daily Rounds with the neurosurgical house staff and all teaching conferences. The conferences consist of Neurosurgery Grand Rounds, Neuroscience Grand Rounds, Neuroradiology and Neuropathology Rounds, and Tumor and Vascular Conferences, all of which are held on Thursdays. The student shares night call with one of the senior neurosurgical residents and is encouraged to scrub on all trauma cases during her/his nights on call. If the student so desires, s/he can also be called to participate in ER operative cases on her/his “off” nights. The latter is not mandatory. The student is encouraged to accompany the neurosurgical resident on all emergency room calls during the day. This provides a first-hand experience in caring for the acutely ill neurosurgical patient. The student is especially encouraged to participate on all cases which s/he has worked-up. Scrubbing on cases in which s/he has not been involved pre-operatively is at the discretion of the attending physician. Students are also encouraged to join the attending neurosurgeons in the outpatient clinics where new and follow-up patients with a wide variety of neurosurgical problems are assessed, and management plans are discussed.

Evaluation Methods:
Evaluation will be based on staff and senior resident observation.
Course Description

Goals: The goals and format are varied to suit the individual needs of the student.

Generally this elective is intended to acquaint the student with the management of the more common eye problems, and is particularly suited for students interested in primary or emergency care. It is also useful for students interested in ophthalmology. It enables them to become better acquainted with ophthalmology as a potential career.

Reading Assignment: Basic Ophthalmology, American Academy of Ophthalmology, by Cynthia A. Bradford., chapters 1, 2, 3, 5 and 7. Also read Retina by Stephen J. Ryan (not on reserve) – see additional information on COMET re: this assignment – this should be done prior to the rotation.

Evaluation Methods: Evaluation will be based on staff observation. A written examination and topical presentation are required.
COURSE NO: SURG9512
Title: Pediatric Otolaryngology
Faculty: Richard Hubbell, MD
Time Commitment: 1 month
Months Offered: All
Enrollment: Limited to 2 students per month in all otolaryngology courses (SURG9512, SURG9513, SURG9514, and SURG9518)
Visiting Students: Yes

-----------------------------------------------

Course Description

Goals: Emphasis will be on the evaluation and management of outpatient pediatric otolaryngologic problems with an exposure to operative pediatric otolaryngology.

Format: Patient examination experience is developed in a preceptorship setting with daily informal patient discussions. Several general didactic conferences and lectures delivered weekly are available to the students during their rotation.

Evaluation Methods: Performance will be evaluated by the attending preceptor and resident based on daily clinical experience, as well as a written examination at the end of the rotation.
COURSE NO: SURG9513
Title: Otolaryngology Preceptorship
Faculty: William Brundage, MD; David Charnock, MD (Rutland); Richard N. Hubbell, MD; Gary P. Landrigan, MD; Donna J. Millay, MD; Theodore Shattuck, MD (Rutland); Damon Silverman, MD; and Robert A. Sofferman, MD
Time Commitment: 1 month (2 weeks in Burlington; 2 weeks in Rutland)
Months Offered: All
Enrollment: Limited to 2 students per month in all otolaryngology courses (SURG9512, SURG9513, SURG9514 and SURG9518)
Visiting Students: Yes by special approval

Course Description

Goals: Emphasis is primarily on evaluation and management of outpatient otolaryngologic problems with exposure to routine otolaryngologic operative procedures. This elective is ideal as initial otolaryngological exposure for the student going into medicine, family medicine, or pediatrics.

Format: Patient examination experience is developed in a preceptorship setting with daily informal seminars. The students have the option of spending two weeks in Rutland along with two weeks in Burlington to give a balance between the private and academic environments.

Evaluation Methods: Performance will be evaluated by the attending preceptor and resident based on daily clinical experience as well as a case-based oral examination at the end of the rotation.
COURSE NO:       SURG9514
Title:           Otolaryngology
Faculty:         William Brundage, MD; Richard N. Hubbell, MD; Gary Landrigan, MD; 
                 Donna J. Millay, M.D; Damon Silverman, MD; and Robert A. Sofferman, 
                 MD
Time Commitment: 1 month
Months Offered:  All
Enrollment:      Limited to 2 students per month in all otolaryngology courses (SURG9512, 
                 SURG9513, SURG9514 and SURG9518)
Visiting Students: Yes

---------------------------------------------------------------------------------------------------------------------

Course Description

Goals: Emphasis will be on the evaluation and management of outpatient otolaryngologic 
       problems with an exposure to operative otolaryngology as well.

Format: Patient examination experience is developed in a preceptorship setting. The student will 
         spend time in the office and operating room. In the office, the goals will be to develop the 
         ability to perform a complete head and neck examination and learn how to manage 
         common otolaryngologic problems. Student will also be encouraged to visit the operating 
         room and become familiar with common ENT procedures.

Evaluation Methods: Performance will be evaluated by the attending preceptor and resident based on daily 
                    clinical experience as well as a case-based oral examination at the end of the rotation.
COURSE NO: SURG9515
Title: AI Pediatric Surgery
Faculty: Kenneth H. Sartorelli, MD and Dennis W. Vane, MD
Time Commitment: 1 month
Months Offered: All
Enrollment: Maximum of 1 student per month
Visiting Students: Yes

Course Description

Goals: This course aims to incorporate the student as a team member in Pediatric Surgery. The program fulfills one of the requirements for the Surgical Senior Major. The student works on all aspects of pediatric surgical diseases including the pre-operative work-up and decision-making, the operative experience, and the post-operative management and follow-up of the child. Students are instructed in and participate with the care of the pediatric trauma patient as well, including non-operative management. Hands on operative experience is provided to the student with an interest commensurate with technical ability.

Format: The rotation requires close association with the surgical resident on the service, pre-operative work-ups are carried out, daily notes are written on patients, and basic science principles are stressed in the conduct of patient care. The student takes part in the review sessions for Core students and delivers a lecture on a subject relating to one of the current patient's problems.

Evaluation Methods: Evaluation will be based on interest shown, involvement in patient care, analytic ability, evidence of specific reading on subjects, accuracy of chart notes, to a limited extent technical ability, and the quality of the subject review.
COURSE NO: SURG9516
Title: AI Surgery
Faculty: Members of the Surgery Attending Staff
Time Commitment: 1 month
Months Offered: All
Enrollment: 5 students per month
Visiting Students: Yes

Course Description

Goals: 1. To develop diagnostic and therapeutic skills in the management of the surgical patients and her/his medical/surgical problems.
2. To function constructively under the demands of clinical practice conditions.
3. To actively participate in the pre-operative care, surgery and post-operative care of the surgical patient.
4. To emphasize the basic science principles of clinical surgery by the application of these principles during an Acting Internship.
5. To become acquainted with and perform some of the teaching functions of a house officer toward junior students.

Format: The student is assigned to one of four surgical services (details below) with the same responsibilities, under supervision, as a G-1 house officer to include:
1. Work-ups
2. Decision making in pre-op cases
3. Interpretation of pre-op and post-op X-rays
4. Assisting in operative cases - under supervision:
   a. Retraction
   b. Skin closure
   c. Incision and drainage
   d. Central venous line placement
   e. Chest tube placement and removal
   f. Debridement
   g. Cantor tube placement
   h. NG tube placement
   i. Blood drawing
5. Assuming responsibility for post-op care
6. Work Rounds
7. Alternate night call (no more than every third night) in hospital
8. Daily chart notes on patients

The student is a member of a team including a Senior House Officer who carries overall responsibility and is the student’s immediate supervisor. Surgery services are Vascular, Gastrointestinal, Surgical Oncology, Trauma and Emergency Surgical Service.

The four services are as follows:
Surgical Oncology and Endocrinology (White Service):
Includes the Breast Care Clinic, Melanoma Clinic, Endocrine Tumors, Liver Tumors, Complex and Unusual Tumors and General Surgery. Students will be exposed to the fundamentals of surgical oncology and the multidisciplinary management of the cancer patient.
**General Surgery (Blue Service):** Includes Gastrointestinal Surgery, Pancreaticobiliary Disease, Colorectal Disease, Morbid Obesity, Laparoscopic Surgery and Surgical Endoscopy

**Vascular Surgery (Red Service):** dedicated to the treatment of patients with diseases affecting the arteries and veins of the circulatory system.

**Trauma:** Level 1 Trauma Center in both adult and pediatric trauma care. Provide tertiary and quaternary care for the entire state of Vermont plus parts of Upstate New York and New Hampshire. Also the primary burn center for this region.

**Evaluation Methods:** Performance will be evaluated by the attending and resident staff of that particular service using the Advanced Integration Evaluation Form.
COURSE NO: SURG9518
Title: AI Otolaryngology
Faculty: William Brundage, MD; Richard Hubbell, MD; Gary Landrigan, MD; Donna Millay, MD; Damon Silverman, MD; and Robert Sofferman, MD
Time Commitment: 1 month
Months Offered: All
Enrollment: Limited to 2 students per month in all otolaryngology courses (SURG9512, SURG9513, SURG9514 and SURG9518)
Visiting Students: Yes

--------------------------------------------
Course Description

Goals: The student will gain a broad-based understanding of the various aspects of otolaryngology, including office practice, inpatient care, operating room experience, and Emergency Room care.

Format: The student will act as part of the residency staff. S/he will be partially responsible, under direct resident and attending staff supervision, for the evaluation of office patients, the management of inpatients, and will be assisting in surgical procedures. The student will take call every fourth night along with a designated resident and will participate in the work-up and treatment of patients in the Emergency Room with the resident's supervision.

A basic text will be provided but the student should expand his or her knowledge by consulting textbooks and journals of otolaryngology, and s/he may be asked to give a brief presentation on a designated topic at the end of the rotation.

Evaluation Methods: Performance will be evaluated by the attending preceptor and resident based on daily clinical experience as well a case-based oral exam at the end of the rotation. Any presentations will also be critiqued and serve as a means of evaluation.
Course Description

Goals: The rotation will provide the student with exposure to:
1. Assessment of patients in the office setting
2. Development of diagnostic and therapeutic plans for common urologic problems
3. Participation in care of hospitalized patients (urology and consultation services)
4. Operating room and urologic surgery

Format: The structure of the course involves daily Rounds with attendings to discuss patients, office hours with faculty, participation in the operating room as 1st or 2nd assistant, and initial assessment of patients on the consultation service.

Evaluation Methods: Performance will be evaluated using the departmental Student Evaluation Form, focusing on patient presentations and preparation for the operating room experience.
**COURSE NO:** SURG9520

**Title:** AI Plastic Surgery

**Faculty:** David Leitner, MD; Donald R. Laub, Jr., MD; Susan MacLennan, MD; Robert Nesbit, MD and John Wheeler, MD (Rutland)

**Time Commitment:** 1 month

**Months Offered:** All

**Enrollment:** Maximum of 1 student per month.

**Visiting Students:** Yes

------------------------------------------------------------------------------------------------------------------------------------------

**Course Description**

**Goals:** This elective will promote the understanding of clinical wound healing and to correlate the relationships between tissue handling techniques and grafting with the fundamental biology of wound healing. The student will understand the relationship between deformity from any cause and difficulties with body image and self-esteem.

**Format:** The student will have inpatient and outpatient surgical and office experience, both at the Medical Center or Rutland Hospital, if desired. Students will be on call with the attending surgeon and expected to participate in emergency care of wounds and handle surgical problems. The course will be tailored, if possible, to the special needs of each student.

**Evaluation Methods:** Evaluation will be based on observation of the staff. In general this course will be individualized and will be conducted as a one-on-one program.
Emergency Medicine

COURSE NO: SURG9502
Title: Emergency Room
Faculty: Mario Trabulsy, MD; Stephen Leffler, MD
Time Commitment: 1 month
Months Offered: All
Enrollment: 7 students per month
Visiting Students: Yes

Course Description

Goals:
The goals of this elective are:
1. To equip every graduating MD with the knowledge and skills to adequately diagnose and treat all life-threatening emergencies and most common emergent problems they will encounter.
2. To provide the opportunity to learn methods of initial evaluation of multiple forms of acute medical problems, permitting the study of patients as they present without prior medical knowledge, by active participation in treatment of acute problems under the supervision of ED attendings.
3. To develop technical skills necessary for management of acute illnesses under staff supervision.
4. To expose the student to the interfaces between medicine, surgery, and other specialties.
5. To develop a fund of knowledge of basic physiology and disease processes relative to the patients seen during the rotation, and to be able to discuss the management of the illnesses that they have evaluated during their rotation.
6. To expose the student to the decision-making process relating to hospital admission.
7. The student should be able to:
   A. Demonstrate and discuss the principles of cardio-pulmonary resuscitation and other cardiac emergencies.
   B. Demonstrate and discuss the management of multiple trauma victims, including priorities of management, airway management, and treatment of shock.
   C. Be prepared to handle those emergencies that require emergent action as
      a. Tension Pneumothorax – needle thoracostomy
      b. Airway management – adults and infants
      c. Hemopericardium
      d. Life-threatening cardiac arrhythmias
   D. Gain skills in procedures such as
      a. Suturing wounds
      b. Draining abscesses
      c. Splinting
      d. Starting IVs
      e. Joint reductions

Format:
1. Students will work about 20 – 8hour shifts during the month. The first day will be spent in orientation including reviewing a computer-based tutorial on how to use the electronic documentation tool and tracking system.
2. Students may see patients first. Each student coordinates closely with the ED
attendings. After initial evaluation at the attending’s discretion, further evaluation and treatment may be carried out by the student, but there must be actual patient contact by the supervising physician. The attending should be kept aware of the nature and severity of problems being seen by the student. Prior to patient discharge, the attending will review the diagnosis and instructions.

3. The patient load fluctuates widely in the Emergency Department. In addition, urgency of treatment varies widely. There are critical emergencies and non-urgent emergencies. A change of pace may often be required. There will be times when teaching and supervision can be orderly and systematic, and times when the student may act mainly as an observer and junior member of the team. Efficient, excellent patient care must take first priority. This should rarely, if ever, conflict with an excellent learning experience.

4. Teaching Conferences are scheduled at 8:00 A.M. on weekdays Monday through Friday and are required.

5. All students are required to complete all of the COMET Emergency Medicine modules, both reading and questions, in order to pass the course. This is true regardless of the location the student chooses for her/his emergency medicine rotation (FAHC, MMC, or remote site).

6. All students will present a morning conference in the latter part of the rotation. The student should choose a subject of interest to him/her and have the subject approved by the medical director before presentation. These presentations should be about 30 minutes in length and will be part of the regular conference schedule. They may relate to a patient seen by the student during the rotation.

7. Students will spend a half-day with the Burlington Fire Department Ambulance crew responding to calls. Waiting time should be spent learning back boarding, how to apply traction splints, and C collars, and becoming familiar with the capabilities of this ambulance unit.

8. You may only drop the rotation if you find another student to take your spot for that month.

**Evaluation Methods**

1. Audit of the care rendered by the student is conducted by review of the patient’s charts and by observation of the student during the rotation by the attending staff.

2. At the end of the rotation there will be a brief multiple choice exam based on the learning objectives. Successful completion of the exam will be required of all UVM students regardless of where they do their rotation.

3. Students must demonstrate cardiac resuscitation skills including CPR, rhythm recognition, and knowledge of cardiac drugs.

4. Students desiring an evaluation-exit interview should schedule a time to meet with one of the attendings.

5. A review of timely completion of COMET modules for teaching conference preparation will be done.